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Hodgkin's Disease---Report of

Conditions in Infancy and Their Relati

Subsequent Epilepsy

Aspects of Encephalitis Letha

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SPECIALISM WITHIN THE FIELD OF PSYCHIATRY*

BY SANGER BROWN, 2ND, M. D.,
ASSISTANT COMMISSIONER, STATE DEPARTMENT OF MENTAL HYGIENE

The above title may require some explanation. Under this heading, it is proposed to review certain tendencies toward specialism in psychiatry, within the field of psychiatry itself, chiefly in private practice. It is not remarkable that specializing of this kind should develop, the field being so broad. It is only natural that this should run parallel to what has occurred in general practice.

We have seen how the increase of specialties in general medicine have gradually arisen; the obvious one, those requiring special knowledge, having developed first, such as specialisms in diseases of the eye, ear or other specialties; with increasing knowledge of the functions of certain organs, such as the heart or the kidney, specialism has developed in these branches. Additional specialties are constantly developing and new societies representing them are being formed.

It now appears that trends toward specialism in psychiatry are going to develop in much the same way. We have now only the beginnings, of course, because the practice of psychiatry outside of institutions is of very recent date. It is within the memory of almost everyone when there were very few psychiatrists in private practice. In fact, outside of the large cities, there are still very few psychiatrists, and the use of the term "psychiatrist" itself is of only recent date.

But gradually out of institution service, one whom we may call the "general practitioner" of psychiatry, was the first to appear. Occasionally a superintendent wished a change and started practice in the the city nearby; or an assistant would perhaps start for himself, drawing his clientele from his former connections with the institution.

These pioneers, whom we have called the general practitioners of psychiatry, were consulted in all sorts of psychiatric problems; expert testimony, commitments and criminal cases. They were men of mature experience and good judgment. They made good diagnoses and gave sound advice. To speak of them as if in the

* Presidential Address, American Psychopathological Association, June 3, 1927.

past is, of course, not warranted; but the general trend toward special practice in psychiatry leads one to think that there will be still fewer of this original type in the years to come than there were in the past.

However, while any tendency to specialize within this field is so recent that it can scarcely be so designated, still we may indicate certain of the trends.

For a number of years now, it has been recognized by a good many people that psychiatry should be applied in many places outside of mental hospitals.

Preventive work with children, studies of delinquents, and court work have now been carried on extensively under the auspices of various foundations and societies for a number of years.

It appears to be these surveys and studies which gave the start toward the development of a certain class of psychiatric specialist. The personnel assigned to these duties undertook the extensive study of certain problems. As a result, they became specialists in a way. They gained expert knowledge and it is this development which we wish to discuss here. Most of these specialists had had institutional experience, but they acquired a much broader knowledge through these special studies.

Let us first consider the psychiatric specialist who is developing in child guidance work. The demand for this work in schools and children's clinics has become considerable. These observations cover a wide range. They begin with the nursery, they continue to the pre-school child and through childhood and adolescence. More recently, psychiatric work has been introduced in the colleges. Teachers in the main have been much interested in this psychiatric work with children and claim to receive much assistance through the recommendations.

In the colleges, the work is developing quite extensively. A psychiatrist doing full time work in one of the large eastern colleges tells me that the treatment of psychoneurotic and borderline cases alone, furnishes enough material to fully occupy his time.

Much psychiatric knowledge has been gained through these extensive studies of young people and the science of psychiatry has been greatly improved thereby. This field is becoming a specialty, therefore, within psychiatry. A society has been formed, the Orthopsychiatric Society, and it already has an active membership. Here

then is a group of specialists within the field of psychiatry and a group which is increasing rapidly.

Turning to a somewhat different field in psychiatry, but one which has certain parallels because it deals with large groups of people, is specialism in psychiatry in what has been termed industrial psychiatry.

A number of business concerns with large personnel have found it to their advantage to employ psychiatrists, to avoid large turnovers and to meet certain difficulties which arise. The clinical material revealed in this way is quite familiar to experienced psychiatrists. There are psychopaths, psychoneurotics, defectives and occasionally delinquents. Aside from this material, there are general situations of adjustment to be met, such as arise in a perfectly normal group of people who have varying degrees of adaptability, judgment, application and intelligence.

A routine personality study of all of the employees of these large industrial plants would be very interesting. It would give a cross section of the mental characteristics of humanity, such as we have never had. We might thereby gain a knowledge of the number of psychopaths in the general population, the psychoneurotics and others. Business concerns have ample means to finance a study of this kind and it probably will be eventually undertaken.

Here then appears to be another field in which specialism is occurring within psychiatry. I do not know whether or not this group is organized as a special society as yet, but meetings dealing with industrial psychiatry have been held on more than one occasion. It may be that these specialists will develop along somewhat similar lines as has occurred with the medical staffs of large life insurance organizations. If they do so, much interesting statistical data of psychiatric nature will be contributed.

A third type of psychiatric specialist in general practice is the psychiatrist who treats almost exclusively psychoneurotics and borderline cases. This type of therapy has become so intensive and individual that it may quite properly be spoken of as a specialty. We have a number of psychiatrists entering private practice in this particular field and their practices are limited to such an extent that they are developing a separate specialty.

The number of psychoneurotics is of course enormous. In one form or another the psychoneuroses are probably the most frequent

single disorder known to practitioners of medicine. Psychoneuroses, as everyone knows, are very frequently unrecognized. A psychoneurosis masquerades under the disguise of stomach trouble, cardiac disorder, nose and throat disorders and endless other ailments. Thousands of psychoneurotics never see a physician and many visit non-medical practitioners.

In any case, as stated above, specialism is developing in the treatment of these conditions. The American Psychopathological Association is one group, and the American Psychoanalytic Society another representing these specialties.

We come to still another type of psychiatric specialism. This last year in New York State, the Department of Correction, with its jurisdiction over penitentiaries, prisons and reformatories, was placed under a psychiatrist. This implies a very broad psychiatric activity with criminals. A psychiatrist has been appointed to examine and classify the prisoners at Sing Sing Prison in New York. Extensive probation service has been instituted in New York City and psychiatric examination of these delinquents is contemplated.

There has, of course, long been a close association between psychiatry and criminology. But modern psychiatric studies have revolutionized our interpretation of delinquent and criminal conduct. A reputation awaits the psychiatrist who is given an opportunity to treat a group of criminals from the psychiatric standpoint. This is scarcely possible at the present time. Many people, both officials and others, believe that such a move would tend to coddle the criminal, as they term it. Representing these psychiatric specialists interested in criminology are various societies. The medical section of the American Prison Association is largely psychiatric in its activities and interests.

To briefly mention still another group of psychiatrists, who are interested in a special field, are those who are working in mental deficiency. These are a small group indeed, and the field has been largely neglected by psychiatrists, but the contributions of this small group have been most notable.

Contributions from sources, other than medical, in this field have not always been as fortunate. The much discussed high grade moron, for example, may be said to be a product of the psychological laboratory, recognized chiefly through mental tests. It now seems to be open to question whether this high grade moron should

be classified with the general group of mental defectives at all. However this may be, psychiatric interest is increasing in the mental defective problem, and the American Association for the Study of the Feeble Minded, meeting with this organization this year represents specialists in this field.

What is true of mental defect is equally true of epilepsy. Psychiatrists interested in this field are represented by the American Society for the Study of Epilepsy, likewise meeting with the American Psychiatric Society.

Other forms of specialism, within the field of psychiatry, might be mentioned, such as the laboratory investigator interested in biological studies in mental cases; likewise those interested in the anthropological comparisons and other studies from the physical standpoint. Enough has been said to indicate that psychiatry, rather than constituting a somewhat limited specialty in the field of medicine, is destined to broaden and develop a number of specialties within itself, all of considerable importance.

In contradistinction to the above mentioned forms of specialism, certain other types have developed from time to time, which appear to be less desirable.

There is a tendency occasionally to specialize in the use of certain forms of treatment, often supposed to apply to all forms of mental disturbance.

One such form of treatment is that based on the theory of focal infection. This form of treatment is supposed, by some, to be applicable to most forms of mental disease and mental disturbance, and often is accompanied by one form or another of surgical procedure. Now, no one would be so unwise as to minimize the need to remove focal infections in the maintenance of health; but on the other hand the treatment of nearly all forms of mental disease and mental disturbance through surgical procedure by the removal of focal infection is unwarranted. This kind of treatment takes on the nature of a cure-all. This treatment seems attractive to the laity, because it is so simple but that fact does not make it scientifically sound. Here is a kind of specialism, therefore, limited to a form of treatment, which needs to be wisely handled and applied, if it is not going to be abused.

Much the same way be said of endocrine therapy. This has invaded many fields of medicine and has been used in the treatment

of mental diseases, psychoneuroses, borderline states and mental defect.

Here again, anyone will admit that endocrine treatment, properly applied, is a valuable form of therapy. But if applied as a cure-all in mental disturbances, it is sure to be abused, and especially if applied by those who have no knowledge of the underlying psychiatric problems of the cases so treated. Hence, the development of specialties which deal with certain classes of patients seem more desirable than those which develop from one or another form of therapy to the exclusion of others.

In respect to special forms of therapy, what is the relation of psychoanalysis to these other specialties? It would seem to be desirable, that psychoanalysis be incorporated within the general field of psychiatry; psychoanalytic knowledge should be used by psychiatrists in their practice, as they find it desirable with a certain class of patients. Well-trained psychoanalysts are of the opinion that general psychiatric knowledge and experience is necessary as a background for the successful practice of psychoanalysis. So it seems very doubtful if the practice of psychoanalysis should stand apart from other forms of therapy. Here again there would seem to be no exception to the general rule that specialism in one form of therapy exclusively, and without a background of knowledge of the general problems involved, is not very satisfactory.

If we are to have specialties, therefore, within the field of psychiatry, which seems to be the case, it is highly desirable that they develop in proper directions. Aside from what has been indicated above, are there special tendencies in the psychiatric field which we should consciously direct; and are there others which we should discourage?

One situation, which it would seem, should be discussed, is the position which psychiatry is to occupy in relation to the practice of medicine in general.

There has been a tendency during recent years to organize medical schools into two main departments, that of surgery and that of general medicine. Various other specialties are grouped under one or the other of these two major departments. In hospital organization, this grouping is occasionally followed. In the United States Army Service during the war, this policy was adopted in part with

various modifications. This led to a certain degree of success, and a certain number of conflicts..

This general scheme may or may not be desirable in relation to certain medical specialties. It seems wholly undesirable as far as this application to psychiatry goes. A study of the mind and of its disorders, as manifested in various forms of mental disease and defect and disorders of conduct, is of such broad significance in human affairs and covers such a wide field, that anyone understanding the problem realizes how improper it would be to place such a specialty under a department of general medicine in a medical school. Hence, here is a case where conscious direction is highly desirable. Any arrangement which would make psychiatry subsidiary to another large specialty in a teaching center or in any other administrative organization could only be tentative.

If the practice of psychiatry is to be independent and if specialties are to develop within it, what are the standards of preliminary education and medical preparation for medical students planning to specialize therein? In general medicine and surgery, certain standards in the way of hospital experience are necessary. Can similar standards be outlined in respect to psychiatry?

In addition to general medical training, an interneship of about two years in an institution for mental diseases appears to be a necessary requirement. This appears to be the best and perhaps the only way to gain the necessary psychiatric background. This may seem an excessive apprenticeship, as it carries a physician to near the age of 30 before he can begin independent practice. But such apprenticeship is necessary for all the more difficult specialties, and the well-trained man is apt to outstrip eventually his poorly trained associate. It seems very doubtful if the psychiatrist is properly equipped to carry on his work unless he has had a preliminary training of this kind. In fact, a broad, general training seems more necessary to the psychiatrist than it does in many other branches of medicine.

While it is not within the province of this paper to point out opportunities in the field of psychiatry to the medical student, it might be well to do so in the briefest way possible since some of the disadvantages and difficulties have been mentioned.

It may be said of the medical student entering this work that he is embarking upon one of the most absorbing studies known to

science. It may further be said that it is not a static problem, a field which has been well covered, but rather one where merely the beginnings have been made in many directions. Moreover, there may be satisfaction to him to know that eventually out of psychiatric knowledge held by a large group of people, there may develop a philosophy of life which will be of remarkable importance in the world. We have seen what benefits knowledge of this kind will sometimes bring in the life of an individual patient. Such knowledge, if generally held, may be of as much benefit to society.

Within the past 10 or 15 years, we have been entering upon a new phase of psychiatry, that of practice outside of institutions and attention to psychiatric problems in the community.

The success of this movement will depend ultimately upon the judgment and experience of the psychiatrist directing it. Psychiatry is such a complex subject that if it is undertaken by inadequately trained and inexperienced people the work will be brought into discredit.

While it is true that there are many special psychiatric problems which are beyond the experience of the physician who has done institutional work, we may repeat that from anything we know now, the institution affords much the best laboratory for preparation for these specialties. Therefore, since the science of psychiatry and its various specialties are developing to a considerable degree, it is hoped that proper standards will be maintained by those engaged in the various phases of it.

So if these difficult psychiatric problems—which include not only the psychological life of the patient, but his social and economic life as well—are to be understood, it will be by men who have that deep understanding which comes from a liberal education and experience. The men with training of this kind will carry psychiatry to the position it should occupy among the sciences; a position it has been carried towards thus far—not by numbers or by mediocre adherents—but by its illustrious leaders.

FACTORS DETERMINING THE PROGNOSIS OF CHRONIC HEART DISEASE*

BY ROBERT ABRAHAMS, M. D.,

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It is deplorable that so little attention is paid both by the general practitioner and the heart specialist to prognosis of cardiac lesions. Even pretentious text-books, general or special, slur over the subject of prognosis.

Considering the marked and continued increase of cardiac disease within the last quarter of a century, also considering the sad statistical fact that every second physician dies, and dies comparatively young, of some form of heart disease, the factors determining the prognosis of cardiac disturbance ought, and should, constitute a compelling part of our intellectual equipment.

For the sake of clearness and brevity I will take up the different factors serially and numerically.

1. Diagnosis

A correct diagnosis is the key to a prognosis, as it is the guiding compass to treatment.

The diagnosis should best be made according to signs; the prognosis according to symptoms. The old methods of diagnosis of lesions of the heart are to my mind superior to the new methods, which are in the main instrumental.

A hand-made shoe or shirt is better than one that is made by machine.

The cardiograph is a fine and delicate instrument, but it cannot and should not take the place of the eye, the ear, the hand and the cumulative experience of the examining physician. An instrument has no intuitive faculty and no diagnostic instinct. In the large majority of cases the instrument is more ornamental than useful, more fashionable than feasible. Then comes the patient himself; his looks and his gait; his spirit and his sluggishness; his push and his pep, all of this no instrument can appraise and apprise.

* Read before the Quarterly Conference at Manhattan State Hospital, December 15, 1927.

One point more in the bearing of diagnosis on prognosis is the adherence to the old classification of heart disease.

We cannot deny that the relative danger of valvular disease is as follows: Aortic regurgitation, mitral stenosis, mitral regurgitation, aortic stenosis. This being the relative mortality, as I am convinced that it is, it is of paramount importance to familiarize oneself with the behavior of the heart and pulse[1] in each of these valvular defects, in order to be able to draw prognostic conclusions accordingly.

A combination of a doubly defective valve, like a double aortic, lends itself to a more favorable prognosis than if regurgitation alone existed. The same is true with reference to a double mitral, when insufficiency is added to stenosis, the outlook is better.

An important factor in the prognosis of valvular trouble is the susceptibility of the respective valves to different forms of arhythmia. Mitral stenosis, for example, is by far more complicated, or associated, with auricular fibrilation than are the rest of the valvular defects; aortic disease is the least subject to that crazy action of the auricle. On the other hand, aortic abnormalities are oftener combined with partial or complete heart block.

Disease of the bundle is rarely found associated with pure, uncomplicated, unmixed, valvular disturbance. Unless there be a tumor of the bundle, its pathology is in most cases traceable to myocardial degeneration. If valvular disease is accompanied by bundle disease the significance is that myocarditis is co-existent and co-extensive. All of which, and all of this, has a tremendous bearing one way or another on the life expectancy of the patient; in other words, prognosis.

2. Murmurs

Nowadays, one has to watch his step in talking about murmurs. The ultra-scientific cardiologist, the one who sums up his diagnosis and prognosis in terms of cardiographic tracings, which are undecipherable hieroglyphics to 99 per cent of medical mankind (and sometimes they are the same zigzag lightning strokes to his bewildered and dazzled eyes), this slave to the instrument, I say, will sneer at the mention of murmurs as of any value or importance in prognosis, or, for that matter, in diagnosis.

1. Abrahams: The pulse-phenomenon in valvular disease of the heart. *American Medicine*, March, 1926.

However, a sound heart, like a sound healthy person, does not murmur. Murmuring in either case means an abnormal state. A systolic murmur at the apex which does not wholly displace the first sound of the heart, or a diastolic murmur at the aortic area which does not entirely displace the second sound of the heart, is, in either place and event, a good omen of a good prognosis. The explanation apparently is this: either the valves are not badly damaged, or one valve is impaired causing the murmur, while the remaining leaf, or cusps of the valvular apparatus, is, or are, in a condition to perform their physiological function.

If the reverse condition prevails, namely: the murmur takes the place of the sound of the heart, the indication is that the valves have lost their complete integrity which renders the prognosis, all things equal, more or less unfavorable. Children are an exception to this clinical dictum.

A murmur which has been loud, but which suddenly became inaudible, or barely audible, is an element of a poor prognosis. Conversely, a scarcely audible murmur which suddenly becomes loud and tuneful is a sign of a good prognosis.

A weak murmur which becomes strong under stimulation of the heart and continues strong is a good sign. If, however, it fails to grow strong under treatment, or it quickly returns to its former weakness after short response to heart stimulants, the prognosis is unfavorable.

3. Reserve Power

A healthy heart is endowed with tremendous reserve power, rendering it equal to all emergencies, excesses, sickness and exertion, mental and physical. This beneficient reserve power is retained in many hearts in defiance of all defects and destruction of muscle or valves. Whenever it is met with it augurs well for a good prognosis. The absence of it constitutes the most serious element in prognosis, even in the face of a benign lesion. Every physician of experience can testify to the correctness of this statement. This reserve power is the unknown X of the cardiac architecture. All the devices which were ever invented to ascertain and measure it proved, on trial, to be futile and a waste of effort.

Time and treatment are at present the main bureau of information as to its presence or absence.

4. Heredity

Heredity in heart disease looms as high as in pulmonary tuberculosis, from the standpoint of acquisition and termination. A cardiac patient who can furnish a negative family history regarding heart disease can, all things equal, be assured of a better prognosis than one who is not as fortunate. The latter is a bad risk because he will early succumb to the disease. One could cite many and many cases to emphasize this truth.

5. Anemia

Anemia has a triple importance in cardiac disease and its indubitable bearing on prognosis. First it is a barometer to the patient's general health; second, it is an index to his resisting power and third it hints at the condition of the heart muscle. The latter under the distress of anemia suffers equally with the skeletal muscles. An anemic myocardium cannot pump well. Anemia is a constant companion of valvular and myocardial disease. There is an inseparable comradeship among them. The shortage of hemoglobin ranges between 15 and 50 per cent. However, the prognostic value of anemia depends upon its early or late arrival, its mildness of severity, and, lastly, to the manner it responds to treatment.

Anemia which appears early in the disease deepens with time and is resistant to all forms of treatment, the prognosis is bad. This rule is particularly ruinous to aortic regurgitation. The reverse of this augurs well for the cardiac cripple.

6. The Heart Muscle

The condition of the myocardium is the mariner's needle to the port and harbor of safety of the cardiac navigator. The driving force of the heart is its muscle; many, if not all, of the difficulties and consequences of chronic heart disease begin and end with the bad state of the myocardium.

Hypertrophy no less than dilatation represents an abnormal condition. Hypertrophy, however, is constructive and dilatation is destructive. If hypertrophy was never followed by dilatation every form of valvular defect would be shorn of its terrors. Witness, for example, aortic stenosis, a disease in which the highest and most lasting form of hypertrophy exists. Even when hypertrophy and dilatation but balance each other, they furnish a prog-

nostic blessing. When that blissful balance is broken, the physician is helpless and the patient is hopeless. The latter statement is deplorably but too true in chronic myocarditis, wherein hypertrophy always hangs on a thread.

7. Arterial System

Second in importance, prognostically, to the state of the myocardium in heart disease is the arterial system. Besides the inherent danger which exists in sclerotic blood vessels, a danger which can never be underestimated in cardiac disease, their narrowed calibre and inelastic walls throw additional work on a heart which struggles with defect and deformity of muscle and valve. Again, hardened arteries are poor carriers of nutritive media to all organs including the hungry heart. Yet the arterial system as a factor in prognosis largely depends upon the time when the hardening process set in, before, during or after the myocardial or valvular disturbance occurred. If the sclerosis antedated the cardiac affection, the outlook is much worse than when it developed subsequently.

Hardening of the arteries in valvular disease is not, prognostically speaking, as bad as when the process is associated with chronic myocarditis. In the former the sclerosis develops slowly; in the latter rapidly. In the former the degree of the sclerosis is mild; in the latter severe. Exceptions, however, may be noted here and there.

A good artery is a good factor in a good prognosis in all cases.

8. Etiologic Factors

Etiologic factors which influence the prognosis of heart disease merit extremely careful study, but respecting as I do terminal facilities in a medical paper, I can only mention them passingly and hurriedly.

Recurrent acute, or subacute, articular rheumatism; influenza; syphilis; measles and scarlet fever. Each one aggravates an existing cardiac disturbance and thus renders the prognosis worse.

9. Associated Diseases

Pulmonary tuberculosis is rarely associated with mitral disease. However, the occurrence of the two in one individual is an evil

conspiracy against his long life and happiness. Adhesive pericarditis is one of the most dangerous elements in the prognosis of a diseased heart.

Emphysema and chronic bronchitis are bad associates singly and much worse when they are combined.

Gall bladder disease when attended by acute attacks reflexly disturb the heart. Acute biliary colic often produces transitory dilatation of the left ventricle, which in turn produces relative mitral insufficiency with loud systolic murmurs. A few days after the attack had ceased the dilatation and murmurs disappear. In the presence of old heart trouble, gall bladder disease is a distinct menace. The surgeon's craft and skill must be invited to share in the treatment to make the prognosis good.

Diabetes plays havoc with a chronic lesion of the heart. Diabetes itself is responsible for severe forms of toxic angina pectoris.

Fibroid tumors of the uterus add to the gravity of heart lesions. The sooner they are gotten rid of the better the prognosis for the heart.

10. Nephritis

The sympathy which exists between the heart and the kidneys is too well known to require emphasis or repetition. Renal disease constitutes a formidable factor in the prognosis of chronic myocardial or valvular trouble. All forms of nephritis increase the danger of heart disease, but the worst form is the interstitial type. That type is frequently found associated with aortic regurgitation. The vicious circulatory circle which is quickly established between the two diseases, act and react on each other with the heart suffering the most.

Bright's disease is not necessarily an invariable accompaniment of valvular disease, nor is it a frequent associate or sequela. The very great majority of valvular victims show no signs or evidence of kidney involvement. Traces of albumen, or scattered inconsequential casts, may be found in the urine from time to time, but they are the result of "congestion" rather than disease.

In a small minority of cases of valvular defects renal complication sets in with hurricane fury, either as something new or as an awakening of a dormant, perhaps unrecognized and unsuspected, mild nephritis. Then like a bolt from a clear sky, it violently and

ruthlessly deranges the even and benign tenor of the valvular affection and kills the patient with merciless rapidity. There is established at once odema of the face and arms, suppression of urine, dyspnea, cyanosis, odema of the lungs and death. I have rarely seen convulsions to be a feature of this tragic picture.

11. Angina Pectoris

Angina pectoris when suddenly occurring in a peaceful valvular or myocardial lesion has the effect of an eruption of a long silent volcano. Its very suddenness is menacing, if not destructive. However, before rendering a verdict as to the patient's life-expectancy, one must definitely ascertain the nature of the angina; is it organic or toxic? Or is it nothing more than the irregular, though sometimes, frequent precordial uneasiness which rightfully and frightfully annoys cardiac cripples?

Lest we forget: True angina pectoris is an uncommon occurrence generally, and is by far less frequently a concomitant of mitral disease. Aortic disease is a wee bit more prone to that dangerous association. This being the case, from my standpoint at least, when symptoms of steno-cardia occur, careful analysis and synthesis of all signs and symptoms should be made and measured before the patient is assigned to his grave.

Chronic myocarditis with a background of general arteriosclerosis is more often the parent of the pernicious pectoral pain. May it be stated again, even at the risk of correction and contradiction, that true, or organic, angina pectoris is very, very uncommon. In the threatening presence of the villianous syndrome of angina pectoris, the diagnosis of angina is made with tempting ease, but the subsequent recovery of the patient may sternly remind us of the poet's warning that it is "human to err".

Many instances of sudden attacks of angina pectoris are of vagal origin, beginning in an offended stomach and terminating most frequently in permanent recovery. The great danger of this form of angina pectoris is when it pounces on a crippled heart. The lesson is to eat light and little.

12. Cyanosis and Other Symptoms

Cyanosis, dyspnea and dropsy are bearers of bad tidings. The worst of the three is dropsy. Dropsy which is stubborn to treat-

ment, or if it disappears under treatment and quickly reappears, is a dropsy that spells disaster. Mitral lesions, much more than aortic trouble, are attended by anasarca as a terminal sequela.

13. Age

Age is no unimportant factor in the prognosis of cardiac lesions. Myocarditis in middle age offers a bad prognosis, the reason being that myocardial degeneration in middle life is always a pathological outgrowth of an etiological infection. In other words, it is not a senile process. Old people stand myocarditis pretty well, comparatively speaking. The gradual, and one may say, the natural development of the abnormal condition, or, if you wish to say, the slow retrogression of the normal state of the heart muscle, innures the individual to his functionally disturbed heart. Valvular disease in the aged is not an alarming affliction, for that too is more of a senile souvenir.

Infancy and childhood are practically exempt from myocardial disease. Mitral disease is the prevailing form in that age. The prognosis, in my opinion, is never good. Logically and physiologically the outlook should be well or better, but it is not.

Valvular disease in the middle-aged is by no means hopeless, rather the contrary, it is in most instances amenable to treatment and long life. The avoidance of coffee, tea, tobacco, liquor and golf will shine and brighten the prognosis immensely.

14. Pregnancy

Gestation is a very important factor in the prognosis of the subject under consideration. Every valvular lesion constitutes a hazard. Myocardial degeneration is a condition grave enough to justify abortion.

Mitral stenosis is a close second to myocarditis. Aortic regurgitation has its hazards, but I have seen women, who, in the words of the street "took a chance and got away with it".

Mitral regurgitation and aortic stenosis, all things being equal, are devoid of danger during pregnacy and delivery. As a matter of fact, many women develop relative mitral insufficiency during the advanced months of pregnancy.

15. Arrhythmias

The arrhythmias which offer bad prognosis are pulsus alterans and severe heart block.

Auricular fibrillation as a factor in prognosis wholly depends upon: First, its response to treatment and, second, its companion conspirator. If it is associated with mitral stenosis, itself a dangerous lesion, the prognosis is egregiously gloomy.

Premature contractions, if not ventricular, in the absence of myocardial degeneration, are of no moment in prognosis.

16. Doctor and Drugs

The last element or elements in prognosis which to my mind are of vital importance are the physician and the treatment. The examiner who looks upon a murmur as:

> "The rift within the lute
> Which soon shall make the music mute."

and there and then belabors the struggling heart with powerful drugs, both he and they will be the gravediggers of the patient.

The use and abuse of the great panacea in heart disease, digitalis, I have had occasion to discuss and describe scores of times. The right drug, in the right time, in the right dosage, holds the magic key to the right treatment and beneficient outlook for long and comfortable life.

I want to conclude this unavoidably long paper with an earnest request: Pray avoid the use, in the presence of the patients, of such silly but extremely depressing terms as a "leak in the heart" or a "crack in the heart". The expressions are absurd and ridiculous, and the effect which they produce even on the most prudent and practical patients is most distressing.

I often wish that the banefully fanciful name "murmur" had never been invented. "Adventitious sound" would be less harrowing to lay ears. But, I suppose, it is too late to murmur about the murmur. It is burned deep into the soul of medical literature. Age will not wither it as old custom has not, so far, rendered it stale.

HODGKIN'S DISEASE—REPORT OF A CASE

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Though cases of Hodgkin's disease are relatively numerous, the striking infrequency with which they are reported to the medical profession prompts me to bring before you a case under my treatment.

Hodgkin's disease occurs sporadically in all climates. Environment and heredity seem to bear no relation to its development. Its etiological factor has not as yet been definitely determined. Frankel and Much in 1910 described an organism occurring in this affection. Gram-positive, granular, non-acidfast bacteria were found in the lymph nodes of 12 out of 13 cases, but no satisfactory culture was obtained. Osler suggests an animal parasite, but no specific spirrillum has been identified with this malady by anyone. He bases his hypothesis of acute infection on the rapidly fatal termination of some cases, on the frequency with which the disease starts in the cervical glands, and often with preliminary involvement of the tonsils, on the gradual extension of one gland group to another and on the recurring exacerbation of fever. Both DeNegri and Miermet, in Europe, and independently of them Bunting and Yates, in this country, have obtained cultures of a gram-positive diphtheroid bacillus from the glands of cases of Hodgkin's disease. These findings were subsequently confirmed by Rosenow. All these investigators share the opinion that the diphtheroid microbe is the cause of Hodgkin's disease. Among other workers in the field, however, there still exists a great diversity of views as to the direct underlying cause of the Hodgkin pathology. Many theories advanced have been supported by some and opposed by others. The tubercle bacilli, or their toxins, and syphilis, are mentioned by some as the etiological factors of the disease. Malignant neoplasms as lymphadenoma, or lymphosarcoma, are thought by others to be identical with Hodgkin's disease; but the latter hypothesis loses ground, since pseudoleukemia does not depend on the migration of proliferating cells, but on hyperplasia of autochthonous elements.

The disease is much more prevalent in men than in women. Gowers tabulates 100 cases of which 75 are in males and 25 in

females. In Longcope's collection of 86, 58 are in men and 28 in women. Pseudoleukemia has a special predilection for the young adult, but no age is exempt. In the Longcope series 17 cases occurred before the age of 10; 23 between 10 and 20; 15 between 20 and 30; 17 between 30 and 40; 5 between 40 and 50; 5 between 50 and 60; 2 between 60 and 70; and in two cases no age was given.

Progressive enlargement of the superficial and deep glands, and enlargement of the spleen and liver constitute the essential morphological changes we find in Hodgkin's disease. The symptoms that arise as the result of the anatomical metamorphosis are twofold, those that manifest themselves as an expression of the intrinsic character of the disease, and those due to mechanical compression by the lymphomata of the various organs with which they lie in close proximity.

While in some cases we encounter but little difficulty in establishing a diagnosis of pseudoleukemia, other cases are more obscure and present difficulties that are insurmountable. This is particularly true when the initial lesions have their origin in the internal organs. Ziegler reports a case that gave the impression of typhoid although repeated Widals' proved to be negative. There was remittent fever, headache, diarrhea alternating with constipation, and increased asthenia; but after six weeks when indefinite swelling could be felt through the abdominal wall the diagnosis of typhoid was discarded and one of tuberculosis of the mesenteric glands was substituted. A few days later signs appeared in the chest which were interpreted as general miliary tuberculosis, thus supporting the diagnosis of tuberculosis of the mesenteric glands. On postmortem, the glands of the mesentery proved to be lymphomata of the Hodgkin type, no tubercle bacilli were found, and the pulmonary lesion was recognized as one of capillary bronchitis. There are several pathological entities that closely simulate the clinical picture of pseudoleukemia, and thus accentuate the difficulty of the problem of making a correct diagnosis.

The anamnesis of my case is as follows: The patient, M. A. M., was born 40 years ago, in the United States, of Irish parentage. His father was in good health up to the time of his last illness at the age of 50. Dropsy (?) was given as the cause of his death. His mother is living and enjoying good health. It is claimed, however, that at one time she was diabetic, but at present she shows no signs

or symptoms of that disease. The patient had three brothers and three sisters. Two of his brothers are living and in good health, and the third one died at the age of 16 from general septicemia which originated from a cutaneous infection of the temporal region. One of his sisters died during infancy, and the cause of her death is unknown; another died at the age of 21 of pneumonia; and the third died at the age of 24 during childbirth. Of his three children, two are alive and healthy. The third died as the result of a burn.

At the age of 10 the patient suffered from malaria, which persisted for a few years. About seven years ago, he was troubled with excessive offensive sweating of his feet which ceased spontaneously. At that time he developed an infection of his eyes, from which he suffered great pain, and this lasted for five weeks. Treatment by a specialist was ineffective, but coincident dental attention, consisting of the extraction of 10 teeth (the patient not having had any dental treatment for years), cleared up the eye condition. Previous to, and for a year or two after his eye condition, he was troubled with an itch, which was very annoying and appeared mostly at bedtime. The itch was accompanied with large swellings which were diagnosed as urticaria. In addition, about every month or so, an itchy spot would appear on the arm or leg. The spot would appear yellow and seem to be subcutaneous. From the time of the appearance of the yellow spot, the entire upper, or lower extremity, would swell for two days, remain swollen for another two, after which the swelling would subside in a similar period of time. About five years ago he was troubled with indigestion, and sodium bicarbonate invariably gave him temporary relief. This condition continued for about two years. Lues is denied. All this time he had been working very hard at his occupation, which required much mental application, neglecting required rest and recreation. He was troubled with insomnia.

In October of last year while spending a vacation in the mountains, he contracted an ailment which was diagnosed by the attending physician as neuritis. He suffered sharp pain in the abdomen and in the chest below the shoulder on the left side. The pain shifted from the abdomen to the chest and back again, and was so sharp that it disturbed his normal respiration. This condition lasted about two weeks and was relieved by an electric heating pad. About April of this year, after returning to work, he complained

of asthenia which he attributed to overwork. His physician prescribed complete rest. Another physician examined him thoroughly and discovered enlarged glands. He held out little hope for his recovery, gave him some medicine and advised a sea voyage. The patient took a trip to Florida, stayed there for several weeks, and returned home, when his right ankle began to swell; the swelling extending upwards to his thigh. On July 1 of this year he returned to work and remained at it until August 10, when he decided he could no longer continue to work under the circumstances. He returned to his first physician and exhibited to him the swelling and the enlarged glands. Again no hope was held out for him, although medical treatment was undertaken. At that time his right inferior extremity was greatly oedematous, he found movement very painful and respiration difficult; bending over was almost impossible, and to sit down required great effort. As time went on, his physical condition grew progressively worse and his mental capacity became proportionately reduced.

On September 5, 1927, the case was first brought under my care. The patient then presented an appearance of complete dejection, and marked physical incapacity. The striking feature that attracted my attention was his enormously enlarged abdomen and scrotum, which greatly interfered with any change of posture. The skin presented a brownish discoloration and some pigmentation; but the patient did not complain of pruritus. There were no cutaneous hemorrhages. The visible mucous membranes were abnormally pale. The masses in both axillae were the size of a fairly large orange and soft in consistency. In the inguinal region, particularly on the right side, the masses were very large and stony hard, but absolutely painless and not at all tender to touch. The right lower extremity and the scrotum were markedly oedematous. The liver and spleen were moderately increased in size. Outside of a hemic murmur indicative of secondary anemia, no abnormality of the heart could be found; on slight exertion, however, its action was greatly disturbed. In the lungs no adventitious sounds or anything suggestive of disease could be detected. A slight intermittent pyrexia was present. The patient would not submit to taking a biopsy or making an examination of the blood. After nearly two and a half months, however, I prevailed upon him to have a blood test made. It showed 4,400 white blood corpuscles per cubic millimeter, and 70 per cent of haemoglobin.

The remedial agents that I have employed are citrate of iron, arsenic, strychnia subcutaneously, and X-ray. This treatment has yielded extraordinary and gratifying results. The subjective side of the clinical picture has entirely changed. The patient is now alert, hopeful and happy; his insomnia is replaced by a refreshing natural sleep; and his anorexia by a healthy appetite. His dyspnoea has disappeared, his vigor returned and he admits having regained his normal vivacity. The objective changes are also discernible. The oedema of his scrotum and lower extremities has completely subsided; the enlargement of the abdomen is much less pronounced. All the palpable glands are now very much diminished in size.

While the prognosis is still veiled in uncertainty, the transition from a state of apathy and despair to one of active interest and hope, from a state of asthenia to one of vigor is so obvious, as to justify my bringing this case to your attention.

CONVULSIONS IN INFANCY AND THEIR RELATIONSHIP, IF ANY, TO A SUBSEQUENT EPILEPSY*

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Observers have sought for many decades to determine the relationship, if any, between convulsions in infancy and early childhood with convulsive disorders in the adolescent or adult. Predisposing or precipitating factors considered are neuropathic heredity, parental syphilis, alcoholism, etc., damaging germ plasm, fetal maldevelopment, head trauma, meningo-encephalitis from any cause, prolonged metabolic disturbances, such as rickets, endocrine dysfunction and psychogenic abnormalities.

What is epilepsy? On what can a reasonable prognosis be based? We do not know its essential pathogenesis. It is not an entity but a symptom. Our knowledge of the biochemistry of the central nervous system, and other vital tissues, is meagre. According to hypotheses epilepsy may be the result of a primary neuronic degeneration, of faulty autonomic innervation, cerebral vascular spasm, increase of cerebro-spinal fluid, auto-neurotoxins. We might pause and ask ourselves have we advanced materially in our knowledge of this truly baffling disorder?

Seventy years ago, West[1] mentioned convulsions consequent to large loss of blood; that the brain in infancy is more exposed to influences to which it is susceptible, than is the brain of the adult, and the frequency of convulsions in the young and the great variety of circumstances under which they occur, making it difficult to interpret their meaning. In infants the less rigid skull wall exposes the brain to be overfilled with blood and also renders it possible to be drained of blood more completely than in the adult, thus convulsions occur. West attributed convulsions occurring at the commencement of eruptive fevers in part to the derangement of the cerebral circulation and in part to changes in the blood. "Convulsions in early life are unusual after completion of dentition and warrant more serious apprehension in children of three or four years than those of a year or 18 months." "There seems to be a decided relation between the liability to convulsions in infancy and epilepsy in

* Read at the Annual Meeting of the National Association for the Study of Epilepsy, at Cincinnati, Ohio, May 30, 1927.

subsequent childhood." West stressed momentary vertigoes, attacks of apparently causeless alarm accompanied by incoherent talking, nodding spasms in childhood continuing into a later epilepsy. "The severity of fits is of less importance in the prognosis of epilepsy than frequency of their occurrence. The oftener they recur, even in a mild form, the less is the prospect of their cessation."

Edward H. Sieveking[2] states "Our knowledge of epilepsy will be warped and very imperfect so long as we have regard only to the fit and overlook minor symptoms which do not amount to the dignity of a paroxysm." "It seems as though the restraining power of the muscular system had been destroyed or taken captive and were running riot under some hidden but uncontrolled influence." "Our knowledge of the disease will not gain by definition." "Convulsive diseases resembling epilepsy must not be confounded with it." "Epilepsy may occur in which more or less consciousness is persistent throughout." "Epilepsy is a disease of the whole man and not any organ or system of organs alone." He refers to the duration of life being curtailed, the frequency of the disease being much greater than ordinarily considered, the fits once having occurred may recur under trivial exciting cause. He refers to epilepsy being found at the period of puberty, difficulty of determining values being placed on the alleged hereditary influences. Although convulsions which usher in the eruptive fevers are not to be termed epilepsy, they are distinctly epileptiform. He believed convulsions during dentition and epilepsy were pathologically identical, that syphilis plays a great part in the production of epilepsy. He cautions against too minute classification in placing too much value on terms, especially as to relative value of predisposing and exciting causes which may be rigidly distinct on paper but not so clearly kept asunder in the observance of a diseased individual. He expressed doubt as to the mystery of epilepsy ever being revealed by exclusively relying on the results of inspections of the cadaver, and mentions the possibility of the causes of convulsions existing during life disappearing entirely with the cessation of life.

J. Russell Reynolds[3] mentions the tendency from earliest periods when convulsions assumed a particular form and chronic history to denote them by one word, epilepsy. He subdivided epilepsy into functional and organic, stating that the qualifications of the word

epilepsy have become numerous and confusing. Many rest content with assigning the word epilepsy to a malady, and then stop all further enquiry into the case regarding it hopelessly incurable. Convulsions are a modification of vital action and therefore depend directly upon nutritive changes in the nervous centers. It is not necessary for great structural changes to account for symptomatic deviation from healthy action. All that necessarily exists may be perversion of nutrition. "Conditions upon which convulsions depend may be occasioned by structural disease in the contiguous portions of the nervous centers. Similarity of convulsions as they occur in different indivduals, merely shows that the immediate causes of these convulsions were alike in each, whereas the remote causes may differ widely. The mere presence of either spasm or loss of consciousness does not constitute epilepsy. "Epilepsy is not incompatible with perfect physical health." "Dentition as a cause of convulsions is a frequent occurrence but as a cause of epilepsy rare. "Convulsions not epileptic in character may sometimes occur in an epileptic, e. g., puerperal convulsions."

Much heretofore written regarding influence of heredity in epilepsy and similar conditions is without much value from present-day standards. Can one be sure of diagnoses of epilepsy in ancestors when it is often difficult to make a diagnosis in the living, even under fairly close supervision? Some contend that every convulsion in man must be epileptic. Many, in referring to heredity, seemingly forget that the term refers to make-up of germ plasm previous to coalescence at conception of the individual.

There has been a steady tendency in recent years to lay more stress on environmental factors as compared with hereditary influences. In but a small percentage of epileptics has direct similar heredity been elicited.

In Binswanger's[4] opinion convulsions in the first few weeks of life indicate life-incapability and later in infancy they are due to the physiological disposition to convulsions, owing to the incomplete development of the central nervous system. He believed infantile eclampsia may be the prelude as well as the disposing cause of epilepsy.

Echeverria[5] mentions epilepsy as a name synonymous with convulsions, indiscriminately employed by ancient and modern medical writers to indicate definite spasmodic affections and that no other

malady exhibiting a wider range in etiological conditions accounts for the confusing application of the term. He further states, there is scarcely a disease in which epileptiform convulsions might not occur.

Watson Carter[6] mentioned "Not every person having epileptoid or epileptiform attacks could be called epileptic, that a convulsion is only a symptom and not even essential, that one cannot preclude the possibility of having to do in one of these cases with epilepsy beginning in early life, a question which can only be determined by the continuance of the convulsions."

It has been alleged that in families of epileptics a larger proportion of adult members of such families has had infantile convulsions than did the epileptics in such families. This has been rarely seen in the records of Craig Colony.

The disorder has been regarded as a phenomenon of cortical inhibition rather than of excitation, the essential factor being temporary loss of function in the higher brain levels, permitting subcortical regions, including pons and medulla, to overact.

It has been asserted that epileptics no more frequently give a history of convulsions in infancy than do non-epileptics.

Turner[7] mentions the relatively frequent occurrence of epilepsy in only children. In reviewing 2,000 histories at Craig Colony 6 per cent were found noted as only children, but there is no information as to the number of miscarriages or stillbirths before the only child mentioned, who might be the only viable child resulting from several pregnancies.

Riddoch[8] states that convulsions in infancy are about twice as frequent in families with hereditary history of epilepsy as compared with those without such history, and that in epileptic families there are a greater proportion of epileptics among the first-born than those born later. The accompanying table shows the order of birth in 2,036 consecutive cases at Craig Colony. (231 cases being entirely unknown.)

It is difficult to ascertain as to how many in the general population are first born, second born, etc., so as to permit of comparison.

Wilson[9] says "Convulsions can be brought about experimentally in animals anatomically and physiologically normal. Some fits are clearly cortical, some at obviously lower levels. We do not know

ORDER OF BIRTH OF EPILEPTIC ADMISSIONS

Order of birth	Children in family																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20
1st	122	106	85	69	46	32	22	14	9	6	8	2	2					1	
2nd		85	67	72	54	34	20	8	15	1	1		3						
3rd			65	63	54	34	16	16	12	6	5			1	1				
4th				71	36	34	19	14	13	6	5	2	1	4					
5th					55	20	16	20	8	7	4	3	4						
6th						25	17	16	12	5	8	2	2	1	1	1			
7th							31	21	10	7	4	2	2		1				
8th								18	11	3	1	1	1						
9th									22	2	2	2	1				1	1	
10th										14	4	2	1		1				
11th											5	3	2			1			
12th												6	1						
13th													5	1		1			
14th														1					
15th															1				
20th																			1
Unknown	10	13	10	18	18	10	13	7	3	3	1	0	2						2

the condition under which the accumulated nervous energy is discharged."

Peterman,[10] with others, believes convulsions in new-born infants are probably organic, those occurring during the first few months of life are usually due to congenital malformation of brain or skull, those occurring between eight months and three years are functional, due to spasmophilia.

According to Sharp, Ulricj[11] and others, 15 to 20 per cent of normal children show blood in the cerebrospinal fluid, indicating hemorrhage, usually subarachnoid. They believe many other cases of brain injury do not show blood in the spinal fluid, especially if lesions are intracerebral. Hypothetically, this would explain a good deal of sporadic feeblemindedness and epilepsy.

In 1,673 cases of stillbirths and neonatal deaths, Holland and Clayton[12] found 25 per cent due to intracranial injuries, 33 per cent of all cases of version showed intracranial lesions. Four hundred and sixty-five of the total deaths were due to complications of labor. These findings suggest that in a large number of infants who survive, considerable brain damage may occur, insufficient to cause death, but enough to interfere with normal development and to result in such a neurological symptom as convulsions, perhaps continuing into epilepsy.

Various paralyses, convulsions, etc., observed in young infants are by some attributed to meningeal haemorrhage at birth; by

others to various pathological processes of intrauterine origin. Serious brain injuries occur not only in pathological labors and those artificially terminated, but in many so-called normal labors.

For some unknown reason, certain individuals present recurring epileptiform attacks, and other individuals with apparent defects in make-up which should provoke such attacks are free from them. We know that in adults perhaps because of a fully developed nervous system, one observes convulsions recurring in only a small number of individuals who sustain serious head trauma, e. g., soldiers.

Schwartz and Frink[13] refer to microscopic bleeding in the brain in premature babies and that asphyxia is of secondary importance as a cause of such haemorrhage.

Collin[14] says the well-known tendency to convulsive states in infancy is due to brain structure, to disturbance of calcium concentration, and to insufficient development of suprarenals and parathyroids. Convulsions due to these factors may be considered as benign as distinguished from epilepsy. Their symptomatology can be explained without participation of the cortex. They are clonic and bilateral without stertor, frequently precipitated by fever, not coming on during sleep, and disappearing as the child grows older. On the other hand, convulsions starting unilaterally, tonic in character, producing asphyxia, apyretic and occurring in sleep or immediately after waking are epileptic in nature.

Encephalitis complicating infectious disease or the result of direct infection of the central nervous system, not sufficiently severe to cause death, may result later in mental impairment, convulsions, etc. Recurring œdema of the brain as a cause of convulsions has long been recognized. The appearance of the brain in a case dying from a severe influenzal infection suggests the possibility of what might occur in a patient recovering from such a severe infection. Acute infections may become localized in a portion of the nervous system, the explanation for which is not satisfactorily established. Some organisms may have special selective affinities for certain nervous tissues, producing special clinical types of reactions. Theoretically, exhaustion or biological inferiority of parts of the nervous system may render it more susceptible to the deleterious influence of toxic products.

Apparently, certain changes in the body chemistry associated

with acute infectious diseases, may precipitate an epilepsy or if already existing, may aggravate it, or on the other hand, such infection may cause abeyance of seizures for a considerable period perhaps years, or even in a few cases permanently. Some allege acidosis, others alkalosis may cause convulsions.

Again writers have suggested that some convulsions in early life are due to anaphylaxis or a similar process set up by ingested cow's milk, white of egg, oatmeal or other common foods of young children.

Hempelmann[15] states acute throat infections, such as tonsilitis, more frequently cause convulsions than gastro-intestinal upset. He mentions the well-known fact that once the child reaches the age when febrile convulsions are ordinarily less common, it takes an unusual occurrence to precipitate them, e. g., onset of meningitis, severe scarlet fever, toxic pneumonia, etc. In 250 cases of spastic paralyses, he found the percentage of epileptics very small.

I have seen diphtheria, tonsilitis and mumps cause marked nervous reactions. What virulent poisons are manufactured within the body by germs and carried to the brain to act as irritants provoking convulsive phenomena? High fever, although present, may not be the cause of the seizure.

Dandy[16] concludes that the motor cortex once injured, the threshold at which convulsions appear is lowered, and that injuries to other parts of the brain may lower such threshold to a lesser degree. He holds that the motor cortex is alone responsible for the occurrence of clonic convulsions, although the attack may not originate there.

Syz[17] states the well-known fact that asphyxia, especially when produced by interruption of the blood supply to the brain, produces convulsions. Lack of oxygen or material increase of carbon dioxide causes hyperexcitability of the nervous system and convulsions.

Vogt[18] believes hereditary syphilis may cause thinning of cerebral blood vessels, making them more easily ruptured and interfere with tissue development, thus more easily producing epilepsy and mental defect.

Wassermann tests applied to epileptics give a very low percentage of positives—2 to 3 per cent, some of these being infected after the onset of the epilepsy.

Patrick and Levy[19] in referring to convulsions and their recur-

rences, say that the presence of such convulsions *per se* multiplies the individual's ordinary chances of epilepsy by at least five, and that there is no definite interval of safety beyond which epilepsy will not occur.

Bassoe[20] says, "It is surprising how little real definite information is to be had when one thinks of the many millions of epileptics that have lived and the tens of millions of children having convulsions, yet statements are based on general impressions and not on available data."

The point has often been mentioned that the contact of the obstetrician and pediatrician with convulsive cases is comparatively short so that their knowledge of subsequent events in the life of the child is limited. On the other hand, neurologists have difficulty in determining, in the adult, what actually happened during early childhood.

Many cases of headache, alleged fainting spells, and certain psychic and temperamental trends are closely related to epilepsy. According to Rosanoff epileptoid tendencies are widely spread in the race, being perhaps almost universal but latent under ordinary conditions.

Clark[21] believes convulsions in children and epilepsy in later life have no essential relationship, that only in predetermined cases are convulsions in infancy of moment, that epilepsy is due to an essential make-up, entailing poor adaptation to reality, the handicapped individual deteriorating through failures and disappointments, so that he is turned back on himself and that there may be organic reasons for such reaction.

Wiersma[22] says that the fundamental nature of epilepsy is inherent failure to adequately assimilate impressions from without and holds that convulsions and mental characteristics associated with epilepsy are secondary and dependent phenomena. He concludes that absent mindedness represents a transition between the normal and the epileptic.

The commonly obtained history of trauma in infancy is difficult to evaluate as to its bearing, if any, on a later epilepsy. It is often not especially severe, nor does it differ in any respect from trauma received by practically all young children.

I addressed a questionnaire to over 80 pediatricians and neurologists, mentioning that it was generally accepted that convul-

sions are common in young children during acute gastro-intestinal disorders and at the onset of acute infectious diseases, and it was also rather generally conceded that infants sustaining severe head injury during birth, if they survive, will ordinarily be epileptic or defective, or both. I can but say that the information obtained does not make more exact our knowledge on the subject. A number replied that they had nothing definite to offer, one well-known pediatrician saying convulsions were so common they were not recorded. Others replied that convulsions in early life were uncommon, while some asserted that as high as 25 to 50 per cent of all infants and young children present convulsions.

A considerable number felt there was little or no definite relationship between convulsions in early life and epilepsy, whereas a few replied that the majority of epileptics give a history of convulsions in childhood and that 25 per cent or more of all infants having convulsions have a recurrence later.

In a series of 1,000 patients at Craig Colony, 32.6 per cent had convulsions in early life, of these 238, or 23.8 per cent, had convulsions first appear in infancy or early childhood, before four years, and continue into later life. Eighty-eight cases, or 8.8 per cent, had convulsions in infancy with remission. In a number, the supposed exciting cause for the recurrence is not mentioned. In others, various factors are alleged, e. g., school attendance, puberty, intercurrent illness, indigestion, etc.

In another series of 1,000 patients at Craig Colony, 31.6 per cent had convulsions in early life, of these 200, or 20 per cent, had convulsions continue uninterruptedly into later life; 116, or 11.5 per cent, had remissions for varying periods.

Schlapp[23] found in 1,365 epileptics that 29 per cent had convulsions during infancy. Thom reports 515 of patients at the Massachusetts Hospital for Epileptics as having the first convulsion prior to the fourth year.

How many children, potential epileptics, die before the diagnosis is made, or before reaching an age when a diagnosis might be possible?

Some convulsions in children are due to acute nephritis. Any condition causing increased intracranial tension may result in convulsive phenomena. Excessive water intake may produce convulsions. It is conceded that mechanisms involved with the produc-

tion of convulsions are in a considerable number circulatory disturbances within the skull, either vascular spasms, venous congestion or increased blood pressure from whatever cause. As to just how some of these conditions are brought about is not known.

It has been frequently noted by observers that epileptics will not have a fit during a period of intense activity or enthusiasm. The prodroma favor the theory of cortical inhibition rather than excitation.

Scott and Usher[24] report 21 cases of infantile tetany in all of whom generalized convulsions were present.

Grover F. Power[25] states that the nervous complications of pertussis generally attributed to asphyxia, cerebral edema or congestion, cerebral hemorrhage, encephalitis or meningitis, the resulting outstanding symptom of all of which is convulsions are due to tetany and not to the anatomic injuries aforesaid.

In recent literature have been many references to convulsive attacks after hyper-ventilation of the lungs. Does prolonged crying in young children produce an effect similar to hyperpnoea and so cause convulsions? What about efforts at respiration made by the infant in the later stages of protracted labor?

Starkey[26] believes spasms of unstriated muscles produce circulatory changes involving basal ganglia which in turn accounts for epilepsy and similar disorders.

Epstein[27] states "spasms in children have as their etiology a physiological and not an anatomical pathology. Many of the etiologic factors of spasmophilia are conducive to a persistent disorder. The relation of spasms in children to the neuroses in later life seems to be in many cases a close one."

Holt[28] and others discredit convulsions being fairly attributed to dentition, although such may occur in rachitic children. There is no doubt but what frequent repetition of convulsions may establish a morbid habit. Convulsions should never be lightly regarded as they may be serious in their immediate as well as their remote possibilities. One convulsion may produce cerebral hemorrhage.

Several observers report that a number of infants showing convulsions immediately after birth had eclamptic or uraemic mothers.

Rickets has long been assigned as a predisposing cause for many convulsions in early life, but spasmophilia is now credited as causing the major portion of convulsions occurring under three years.

A spasmophiliac may after a long period of observation prove to be epileptic. As a point of differential diagnosis reference is made to the seasonal occurrence of spasmophilia and evidence of disturbance of nutrition.

Thom[29] believes that "if infantile convulsions associated with rickets, gastro-intestinal upset, acute infections, etc., were looked upon more seriously and greater effort made to prevent their occurrence during early life much epilepsy and mental deficiency might be prevented." He quotes a study by the Children's Bureau of New Haven, Conn., showing the incidence of convulsions among 1,101 untreated cases of rickets as 4.7 per cent while in 350 treated cases convulsions occurred in 1.5 per cent.

Levy, in discussing a paper by Thom, states that a much greater number of infantile convulsions occurred in idiots than imbeciles and in imbeciles than morons; that in 2,600 children on whom data had been obtained, the average frequency of those presenting convulsions in infancy was 4 per cent. He stated that infantile convulsions occurring at birth or attributed to traumatic conditions were more likely to yield epilepsy in later life than other types. All convulsions assigned to no cause are less benign from the point of view of prognosis. The most benign are convulsions occurring about the 12th month and ordinarily called "teething spasms." They have the least significance.

Still[30] mentions that the use of forceps does not necessarily cause brain damage, but the condition necessitating their use, as being likely to result in more or less asphyxia and consequent brain injury. He refers to unexplained attacks of giddiness as being the fringe of epilepsy and describes so-called "inward convulsions" in which the child screams, becomes livid about the mouth, perhaps turns its eyes upward, at the same time the thumbs to the palms. In others, there is momentary twitching, perhaps extremely fine, of the forearm or leg, or perhaps only the fingers, with in turn loss of consciousness. In another there will be sudden start of the whole body. These symptoms seemingly trivial are just as truly convulsions as major attacks, standing in the same relation to such as petit mal does to major epilepsy. He refers to "screaming convulsions," a mere bout of crying ending in spasmodic closure of the glottis with cyanosis, unconsciousness and a general convulsion. Fifty per cent of permanent infantile hemiplegias begin with con-

vulsions, although perhaps only a very small proportion of these have been caused by the convulsion. Still believes that an enormous number of infants have convulsions but only an extremely small proportion become epileptic, at any rate before the age of puberty.

Muskens[31] believes occasional seizures occurring in childhood, e. g., at the onset of febrile disorders, are defensive in nature, being the method of discharge of a toxin injurious to the organism. He believes too little attention is given to the significance of myoclonic movements found in young normal children, e. g., if a young child is asleep a sudden noise may produce glottic spasm. He does not consider holding of the breath by emotional children as analogous to a convulsion. In a series of 2,000 epileptics observed by Muskens, 12.6 per cent gave a history of convulsive phenomena occurring in infancy.

Types of petit mal, or mild seizures, often overlooked are staring; making peculiar grimaces, sounds, etc.; enuresis, especially diurnal; various jerks; hesitancies in speech, movements, responses, etc.; vertigo; faints; complaints of peculiar sensation in abdomen or head, etc.; petechial hemorrhage of the skin, eyes; screaming spells; flashes; sudden dilation of the pupils; saying or doing something odd; child seems to lose himself; swallowing movements, drooling, fumbling, fussing, all the foregoing stereotyped in the particular individual.

Frequently repeated mild seizures in epileptics might be termed "breathers" in the sense that they furnish outlets for discharge of energy.

Watch out for the so-called masked epilepsy, e. g., sudden transitory loss of speech, sudden dreaminess, sleepiness, giddiness, alleged fainting attacks, etc.

In 7,000 admissions to the Craig Colony, the age at onset in 28 per cent was before five years of age. In 1,500 admissions of all ages, 12 per cent gave a history of cerebropathies complicating infections, and 8 per cent of trauma at birth or shortly thereafter.

Buzzard[32] regards epileptic attacks, slight or severe, as only occasional outward visible signs of some nervous state inherent in a certain proportion of the population, that even the most stable of us might respond in an epileptic manner if the provocation was sufficient. He, with many others, criticises the laying down of restrictions on the life of children presenting epileptiform symp-

toms so as to prevent the inevitable psychological effects which accompany consciousness of such unenviable distinction.

Conclusions

There is, then, wide difference of opinion as to the significance of convulsions occurring during infancy and early childhood, some maintaining such reactions are of only passing moment, others insisting they may portend a later epilepsy. As in other situations in the fields of diagnosis and prognosis, one must be cautious in expressing a definite or final opinion, especially as the diagnosis is ordinarily made principally on reports from relatives and others and not personal observation by the physician.

Many hold that all convulsive attacks, especially occurring singly and during infancy, without apparent adequate cause, are essentially epileptic, their continuance in after life depending on predisposition and treatment. Even in a previously healthy infant with good heredity a convulsion from any cause is a serious symptom as it may be complicated by hemorrhage of the brain, permanent damage ensue, and convulsions recur. The first convulsion itself may not be epileptic but may thus cause an epilepsy.

The question as to the influence of mal-nutrition and infection occurring during early life on a subsequent epilepsy is of great interest. Apparently, such factors may have a marked disturbing influence in the development of the central nervous system. This makes insistent the need for guarding against the occurrence of prolonged dietary errors during infancy and childhood.

The child who has convulsive attacks, be they so-called "worm fits", "teething fits", or what not, may have these disappear for a period but the convulsive tendency has been established and simply remains to be again brought to light at a later period.

The forming of the convulsive habit may be by methods similar to forming any habit, the nervous system responding more easily to certain stimuli.

One should be extremely careful in pronouncing obscure nervous symptoms as of no consequence, especially if recurrent within comparatively short intervals. Such children should be closely observed over an extended period, the general care given being the same as if epilepsy had been definitely diagnosed.

Petit mal is overlooked ofttimes, being called "peculiar spells".

If present with convulsions, epilepsy must be considered most seriously.

Unless there is a family history of epilepsy or of definite brain injury at birth or a subsequent encephalitis, be cautious in making a diagnosis of epilepsy in an otherwise normal young child who has had a few convulsions. Many children who might be expected to have epilepsy do not have it. One writer wisely cautions "Avoid casting the stigma of epilepsy on a child."

Epileptiform reactions occur in so many disorders the diagnosis of epilepsy should only be made by exclusion after thorough study and observation of the particular individual. Two convulsive disorders may be concomitant, e. g., epilepsy and hysteria. Remember it is the recurrence of seizures over an extended period that constitutes the condition that we call epilepsy. Any person may at some time of life have some sort of an epileptiform reaction. In fact some writers say we are all epileptics. When one considers the complicated and intricate structure of the entire nervous system, as well as the circulatory, digestive and other vital systems with their inter-relationship, one is surprised that there are not more reactions epileptiform in nature. The brain itself may be normal but its functional response be perverted by toxins of various sorts and from numerous sources.

Compare sleep starts with myoclonic jerks, absent mindedness and day dreams with petit mal, and one appreciates the lack of sharp definition between normal and perverted function of the living human mechanism. Consider the psychic processes and their effect on function of the systems before mentioned.

As so many factors must receive consideration, there is much discussion as to the age when it is possible to diagnose epilepsy. Epilepsy can be diagnosed with more reasonable certainty at an early age if there is an evident organic basis present, e. g., cerebral palsy, mental impairment resulting from encephalitis associated with acute infectious diseases, etc. Epilepsy, however, is not a species of mental defect although such may also be present.

Any alleged increase in the number of epileptics in a community is probably more apparent than real, statistics being so incomplete that they must be cautiously accepted, and remembering that the interpretation of the term epilepsy and what it includes differs widely.

No general census of epileptics, of any value, has ever been possible, owing to difficulty in determining as to what the term epilepsy signifies and the reticence of families in whom there are epileptics to admit the existence of such condition.

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CLINICAL ASPECTS OF ENCEPHALITIS LETHARGICA IN CHILDREN

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In presenting this paper, I do not feel that anything particularly new concerning encephalitis lethargica will be brought out. However, as children with the residua—both physical and mental—of this disease, or children afflicted with the disease in its chronic form, are problems in the clinics conducted by physicians from both of the State institutional groups, it does not seem out of place to consider some of its aspects.

Cases of encephalitis with lethargy—though it has not been definitely determined that these were identical with the cases we are seeing today—have been reported at various times during the past 200 years; the first in 1718. Since then there have been reported at least six periods when the disease was prevalent enough to have received attention in the literature of the times. Usually these outbreaks occurred when there existed a marked epidemic of influenza, and this had led to a great amount of discussion as to the relationship between these diseases. By some they were thought to be the same disease, affecting different anatomical structures; by others encephalitis was considered to be a complication of influenza. While the most accepted view today is that they are two distinct diseases, the phenomena of their almost simultaneous appearance in severe epidemic form suggests some relationship or that conditions favorable to the two diseases appeared to be analogous.

In this connection, it is interesting to note that the first report of the recent appearance of the disease was made by Von Economo in Austria in 1916, several months before the outbreak of the epidemic of influenza. From there it spread west to France and England and appeared in the United States for the first time in epidemic form in New York City and vicinity in 1918. Previous to this time it had been so rare a condition that intensive studies of its many forms and manifestations were not possible. Sporadic cases of encephalitis had occurred, apparently complicating one of the infectious diseases and occasionally appeared with no apparent previous infection.

Volumes have now been written on the disease and its varied

phases, and there is a tremendous amount of literature available. This amount may undoubtedly be explained by the lack of uniformity in the symptoms and sequelae. The onset may be so mild that little attention is paid to it, even by the patient himself. Hardly more than a feeling of malaise for a few days has been observed in many cases. It often simulates an acute infection, such as influenza. While on the other hand, the onset may be overwhelming, death having taken place after a two hours' illness, and a person apparently in perfect health may, within a few hours, be prostrated by an attack, having some grave neurological symptom as its initial factor. All gradations between these extremes may be seen in the same epidemic, though it seems to be true that certain types are very common in one epidemic year while in another year a different type predominates. For instance—lethargic symptoms which were so common in the years 1916-1918 were so infrequent in 1923 that many have advocated dropping the term lethargica, entirely, and believe that the disease should be known simply as epidemic encephalitis. In the latter year insomia, delirium and mental excitement were much more pronounced than the lethargy. The pathology of this disase may be stated as, chiefly, a polioencephalitis. On section, the substance of the brain and cord show signs of congestion, minute hemorrhagic points, small hemorrhages. These are much more numerous in the gray matter than in the white, and while any part may be affected, certain situations, especially the basal ganglia, parts around the aqueduct of Sylvius and fourth ventrical are more often affected. The cord may be involved but to a lesser degree than the brain itself.

In our position as physicians in attendance at children's clinics, we are not so much interested in the etiology nor in the treatment in the acute stages. Neurologists admit that they know of nothing of therapeutic value in this disease, and there is no known means of shortening its course or of preventing the development of its complicating mental and physical conditions. Alleviation of distressing symptoms is all that can be accomplished, medically. It is the after affects which we are called upon to help. However, a knowledge of the disease, itself, and its course is quite necessary, as often times the history of some illness undiagnosed, or wrongly diagnosed, which is obtained in the interview with the patient or parents may, from our examination of the case, be diagnosed as

quite probably having been an unrecognized attack of encephalitis. An instance of this might be a history something like this: During the past year a child who had previously been reasonably well behaved, had suddenly begun to wander away from home, had been lying, stealing and generally getting into trouble in every possible way. This child is probably no longer a good scholar or even interested in school, and may be brought to a clinic for a psychometric examination.

In going over the history, it frequently happens that the mother will tell that this child had an attack of so-called grippe but was not very sick; perhaps running a temperature for two or three days. She may give a history of perfectly typical grippe, but on being questioned closely it may be brought out that during this sickness the child seemed more than usually toxic, was quite sleepy but was not unconscious at any time—she had simply looked at it as the drowsiness of any sick child. Sometimes this can not be brought out, but during his convalescence he may have been rather drowsy, especially toward the latter part of the day, and had a nap every afternoon. This is not, of course, unusual, nor is the next phase. The child may have been rather wakeful at night, often times getting up and wandering about the house, being unable to sleep. This again is excused by the fact that the child had a nap in the afternoon. There may have been a period when diplopia was present. Then, as the anti-social tendencies develop, it is quite apparent that this illness was not a simple grippe but either encephalitis alone, or encephalitis following an attack of ordinary grippe or influenza. The original attack may have been called grippe, a beginning meningitis may have been suspected by the general practitioner, or it may have been so slight as to be hardly recognized by the mother as a condition severe enough to call in a physician. These cases are fairly frequent and several have appeared in the Neurological Institute in the problem clinics conducted there. Often times there is a great deal of opportunity for discussion. Some may take the stand that the child is simply an unstable individual, reacting to some maladjustment in the home or school environment, while others may argue that there has been a definite pathological condition which is responsible for the personality change and conduct. It must also be kept in mind that recrudescences, though rare, do occur after months, and in one case, after a period of nearly four years.

In one case admitted to Letchworth Village, a child had been committed to the institution from a court of New York City, the examination made by their physician with no thought, apparently, of a post-encephalitic condition. He was a physically normal type and nothing whatever suggestive of encephalitis was found in the physical examination. In getting the anamnesis, it was brought out that this child had been an inmate of another institution where he was simply considered to be a troublesome, high grade defective, but on going still deeper into the history, a mild attack of grippe was brought out, after which he became quite suddenly a typical city bad boy. This boy showed the conceit, the desire for attention, constantly endeavoring to "show off", as the other boys expressed it, and evidenced to quite a marked degree another symptom which often appears—that of combativeness. At home he had conquered his older brother and fought with a police officer. He simply loved to fight, but strange enough at Letchworth he only wanted to fight with his fellow patients, and invited them to fight in as pleasant a way as anyone asking another to play a game of checkers. Previously he had been accepted in the U. S. Army but was kept for only a short time and given an honorable discharge. He ran away from Letchworth, remained at home for a time but was finally arrested and sent to Napanoch. I cite this case simply as one with no physical evidences of encephalitis—a boy with whom you would have to live for some little time before his condition would be suspected and diagnosed.

Physical sequelae appear in a large proportion of the cases. The Parkinsonian syndrome, in some degree, is quite characteristic of this disease and when occurring in a child, the mask face, open mouth, salivation, etc., make a diagnosis of encephalitis possible across the room. Various ocular palsies and different degrees and types of paralyses in other parts are not, however, so pathognomonic of this disease and are often not associated with it.

As an illustration of the very mild type of palsies which may exist, I am reminded of one small boy who was admitted to a cottage at Letchworth and then brought down for a physical examination. I, personally, made the examination and marked him as a physically normal type. The next day, while passing the boy in school, I noticed that he walked with a slight limp. Thinking something was the matter with the boy I stopped, questioned him, had him

walk for me and then began to notice other symptoms and wondered how, on the previous day, I could have passed this child without making a diagnosis of post-encephalitis, which, as his history—afterward obtained—proved to be the case. The mask face was only evident when he was absorbed in his work; the hyper-activity evidently covered this symptom completely except when he attempted to concentrate on one subject.

During the examination of another case admitted to Letchworth, a slight suspicion of the mask face was noticed. Without really believing that this boy was a case of post-encephalitis, he was asked to walk across the room when it was very evident that he had lost the swing of one arm. These were practically the only symptoms brought out at that time. His behavior with the other boys was noted—he was constantly in trouble, a chronic complainer, mischievous with the others, unpopular because of this mischievousness, and in retaliation he was more or less maltreated by the other boys. On the first visit made to the patient by his family, our diagnosis of encephalitis was corroborated.

Another boy admitted was given a provisional diagnosis of hemiplegia. Until the examination was nearly over, encephalitis was not suspected, but the boy's over-talkativeness and his boastfulness aroused a slight suspicion and on asking him what diseases he had had during his life, he volunteered the information that he had had sleeping sickness. This boy was interesting in the fact that he was placed upon intravenous treatments of sodium iodide. His complaints diminished and his habit of sleeping immediately upon coming into the cottage was broken up. His tendency to run away ceased, so much so that he could be left at work alone in the field where he was fairly industrious and took quite a pride in his accomplishments. He was kept on treatment for three months and then treatments were stopped for a time. Immediately on their ceasing, he began to ask when he was going home, stating that he was a sick boy, that he had come to the institution for treatment and was perfectly willing to stay as long as he was being treated, but now that we were not treating him he wanted to go home. He immediately became very difficult to manage, ran away, stole and came back with wild tales of the manner in which he had obtained the money found on his person on his return. His family demanded his release and he was allowed to go home, as we informed them that a boy of

his type could not be handled in an open institution and should be committed to an institution of the type of Napanoch. He went home and in a very few days burglarized an apartment, was arrested and committed to a penal institution. The interesting point in his case was the value of the sodium iodide therapy. Was it of therapeutic value to the boy, or was the fact that he was receiving treatment the psychological cause of his improved behavior and his relapse immediately upon the discontinuance of treatment?

In describing these concrete cases, it simply has been intended to show how carefully the history of children should be taken, as severe sequelae may follow a very mild attack. In fact there seems to be very little relation between the severity of the original attack and extent of the after effects. Complete recovery may take place after a very acute onset with marked lethargy, alarming respiratory symptoms and evidences of paralyses.

Hall gives some interesting figures on prognosis, roughly stating in the acute stages that in every 100 cases 25 die, 25 recover practically completely, whilst 50 recover with residua of which perhaps one-half have some degree of Parkinsonism.

The mentality of these children after an attack of encephalitis also varies widely. As stated, some recover completely, others attain a practically normal intelligence quotient, after an attack and simply show evidences of a conduct disorder, or in some the apathy associated with Parkinsonism, while still others are definitely retarded. Possibly there may be some emotional blocking, but in many cases it has been thought that the disease has caused a definite arrest in mental development, that is: A child having encephalitis at the age of 8 years may never have a mental age of much beyond that. Even though the mental development is not arrested, most of the children are so inadequate and anti-social that they accomplish almost nothing in school work. Recommendations to be given in the clinics again vary with the type and severity of the case. Some of the children can be handled fairly well at home, where others are absolutely beyond control of the parents.

At present there seems to be very little space provided for these children in our institutions, but the work of such men as Bond in Philadelphia and the procedure at present being carried out at King's Park show that they can be made to lead fairly happy lives when properly segregated and a specified routine provided for

them. In the institutions for the feeble-minded some fit quite nicely while others are most upsetting to the morale and routine of a ward or cottage. In the hospitals for the insane, they appear to be equally out of place, unless, as has been organized in some, separate wards are set aside.

Although some children seem to gradually improve, on the whole cases of encephalitis lethargica in its chronic form—with conduct disorders and other sequelae—appear to be practically hopeless. They are children who will have to be cared for by someone for the rest of their lives—too inadequate to ever be self-supporting, no matter how high their psychometric rating is, and often too troublesome to be managed in the community.

In the cases that have improved at Letchworth, although we have tried sodium iodide therapy, we felt that it had no permanent benefit and that training in the general routine of the institution was the most beneficial treatment. Some could go to school for a time, but after a period became upsetting and had to be kept in the cottage or placed out at work where they seemed to adjust better and to show improvement in behavior. Very little adjustment was made in school—not enough in the cases that we have received to justify their being kept there and an endeavor made to overcome their upsetting behavior. Those who have worked out of doors have improved physically and in conduct, and are apparently much happier when provided with something with which to occupy their minds.

Since 1923—the last epidemic year in this country—the number of cases has seemed to be fairly stationary and it is greatly to be hoped that we are again passing into a period when the disease will be rarely seen.

In conclusion, it might be well to emphasize the diverse manifestations of this disease; it is rightly said to be unique among infections in the variety and character of its after effects. In the acute stages a guarded prognosis must always be given, as severe residua —both physical and mental—often occur after a very mild attack. Mental deviations from the normal, produced by this disease, occur in children showing very slight physical sequelae and occasionally none whatever. Although not a common condition, it is one which we should always keep in mind in clinics conducted for children of abnormal mentality.

VALUE OF CONSTITUTION STUDY IN MENTAL DEFECT AND DISEASE*

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For several years there has been developing a new and widespread interest in the old question of the relation of constitution to disease. As one consequence many patients are again being studied by the methods of anthropology. It seems appropriate, therefore, to begin this discussion with a quotation from one of the older writers. Thirty-one years ago Hrdlicka wrote, "Anthropometry, in its greatest perfection, will give the physician nothing but bare measurements, and any signfication of the data it may furnish will always correspond to the physician's power of judgment and discrimination." This was written in a previous period of enthusiasm when Hrdlicka, an authority on anthropology, was working at our State Pathological Institute. No great things seem to have been accomplished, and the conclusion would seem to follow that the physician could not interpret the measurements. This failure was not due, however, to a lack of judgment, as much as to a lack of understanding of the significance of the parts measured and a lack of clinical facts and classifications with which to correlate the measurements. So it is not the intention of this discussion to discredit the use of measurements, but rather to suggest that by making use of the knowledge now available as to the significance of normal and abnormal development it should be possible to make measurements and other observations which are capable of useful interpretation.

The object in the study of physical make-up is to discover the nature of underlying causes or pathological processes which have contributed to the clinical picture. The most logical first step is to establish close relationships between physical make-up and function on the one hand and mental make-up and behavior on the other. On account of the complex nature of both physical make-up and mental make-up both sides of the equation must be reduced to the same terms. It is necessary to use analytical methods, with the idea of isolating basic factors which are expressed in physical

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make-up and function, and which also contribute to the clinical picture. It is quite enough to show that a part of the physical picture is directly related to a part of the mental picture.

In order to maintain proper orientation it is desirable to lay out the work and classify the data somewhat according to the following steps.

a. The existence of physical types and abnormalities of individual parts.

b. Evidence as to their significance.

c. Clinical interpretation on the basis of their significance, and correlation with known clinical and pathological facts.

Physical Types and Abnormalities

The existence of physical types and their close association with different diseases has been recognized since the time of Hippocrates who recognized the habitus apoplecticus and the habitus phthisicus. These two types, the short and thick type and the tall and slender type seem to be the most definite and best recognized, and they have been associated with many different diseases. Wertheimer and Hesketh have tabulated 21 classifications of body types, from Hippocrates to Kretschmer. Most of these are merely the application of different names and the addition of extremes to the two basic types. Our traditional belief in a constitution predisposition to certain diseases seems to have been maintained by the occurence of these diseases in persons of the appropriate type. A recent confirmation of this belief is the observation of Draper that persons with gall bladder-disease show physical characteristic of the stocky build, while those with gastric ulcer are of the asthenic habitus. It is also of interest to note a growing conviction in some medical clinics that there is a definite hereditary factor in arteriosclerosis and essential hypertension. The constitutional aspect of blood pressure is being carefully studied. The physical type of these patients will doubtless be considered and possibly the observations of Hippocrates will be again confirmed.

So the existence of physical types may be considered as established. Their association with different psychoses has been demonstrated by Kretscher, who found that 85 per cent of manic-depressive patients were of one physical type called pycnic, while 90 per

cent of schizophrenic patients belonged to other types, called asthenic, athletic, and dysplastic. This confirms and elaborates the original observation of Esquirol, that insane persons of stocky build were more likely to have acute attacks with recovery while those of slender build were more likely to become demented.

The fact has also been amply demonstrated that variations and abnormalities of physical make-up are common in patients with mental defect. A long line of careful observers have studied these defects in their efforts to prove their own theories of the relation between body and mind. Morel recognized the striking physical defects in idiots and explained them as an expression of degeneration from an earlier perfect man, "a degeneration of progeny" resulting from various influences. The term degeneracy has persisted and the "stigmata of degeneration" have been carefully studied and classified. With the advent of Darwin's theory of evolution these defects were explained as evidence of a reversion to an earlier and lower type. Lombroso studied these defects in criminals on the theory that their presence showed a regression to the morphological status of lower races, prehistoric man and animals.

With the full development of anthropology with innumerable detailed measurements and indices elaborate studies were started on the physical make-up of the insane and defective. Our journals of 30 years ago show that wave of enthusiasm. We find 22 varieties of ears to be reckoned with, and one man had collected 1,000 casts of the palates of idiots. At this time Adolf Meyer made the comment that many enthusiasts were satisfied to class these defects as degenerative while an investigation of the physiological reasons for their existence was dispensed with. We are now in a position to consider these physiological reasons.

Significance of Physical Defects

Our interest now lies in the significance rather than in the fact of physical types and abnormalities of individual parts. If the study of these types and anomalies is to be of real value in explaining mental defect and disease, it can come only from an understanding of their biological and pathological significance.

Abnormal development of individual parts, structures, and functional units should be considered first, and somewhat separately

from total make-up. For several reasons the study of individual units and functions offers a much more feasible point of departure in the analysis of constitution than a study of the machine as a whole. Under the name of "Stigmata of Degeneration" these anomalies have long been recognized as significant of some profound constitutional pathology involving the nervous system, and therefore are worth further study. These separate anomalies are more distinct and more easily worked with and understood. Perhaps most important, is that recent experimental results indicate that they may often be due to a single cause, although not the same cause in all cases. Finally, it is to be remembered that individual structures make up the whole body and variations in the development of individual structures, such as bone, are important in determining body build.

Every explanation of abnormal development has had to consider the factor of heredity. It was the basis of the theory of degeneration and the theory of reversion or atavism. It gave rise to the question of the transmission of acquired characteristics and the immutability of germ plasm. Now that imperfections and abnormalities of development are easily produced experimentally, it becomes necessary to determine which of those presented by the patient are hereditary and which are due to external influence. From a cursory review of the subject it is possible to set out several fairly definite and distinct ways in which imperfect and abnormal development may be produced.

1. Heredity, resulting from germinal mutations and variations. Certain physical defects, as achondroplasia and additional fingers and toes, are said to run in families. The same defects which run in families also occur spontaneously, due to primary germ variations.

Tredgold has suggested that the hereditary factor in feeblemindedness is nothing more than the neuropathic diathesis, as indicated by the frequency of insanity and epilepsy in the parents. Idiocy, in which physical defects are most marked, is looked upon as a cumulative end result of the neuropathic diathesis plus deleterious external factors acting on the parents or on the offspring during embryonic and later growth. The neuropathic parents are less able to overcome these external influences. On this basis he emphasizes the old idea that the condition of the mother often is a

determining factor in idiocy. It is therefore significant that we now have experimental evidence of abnormal development due to external influences.

2. Toxic agents acting on the germ cells before conception, as lead, alcohol, and bacterial toxins. This is more clearly shown when the father alone is exposed to the toxic agent. In a study of lead poisoning it was found that in 32 pregnancies where the father alone was exposed there were 12 abortions, and of 20 living children only 3 lived beyond the third year. Idiocy and epilepsy are said to be common in lead workers.

There has been much discussion as to whether alcoholism in the father will influence fecundity and the development of normal children. As far as experimental work goes, there seems to be good evidence of it. By mating alcoholic male animals with normal females, Stockard found that the number of offspring was greatly reduced, and that many of those born alive showed a variety of physical defects, including numerous defects of the nervous system. The effect extended through three generations from the original alcoholic male. Those who survived seemed to be of a more vigorous type than their ancestors. This accords with the idea of Tredgold that the feebleminded are pathological by-products of evolution rather than representatives of an earlier period.

3. Factors operating after conception which influence embryonic development. It had long been known that malformations could be produced by subjecting hens' eggs to such simple methods as varnishing the shell of the incubating egg, or keeping it on end, or exposing it to variations of temperature. In recent years Stockard and others have carried this work further, and have had some very significant results. By incubating fish eggs in sea water containing 3 to 9 per cent alcohol a variety of defects were produced, especially of eye, ear, and nervous system. The forebrain was usually very narrow, giving to the head a characteristic pointed appearance. The histologic structure was often peculiarly abnormal in both arrangement and appearance of cells. Other chemicals of the anesthetic group produced similar results, and so did exposure to low temperature and lack of oxygen.

Further work has made it clear that this variety of agents produce identical abnormalities, so that there is no specificity between agent used and abnormality produced. All agents can produce the

same result because they act in the same way, by arresting the rate of growth of the embryo. The type of defect produced depends upon the time at which the agent acts, i. e., the stage of embryonic development at which they produce an arrest of growth. Each organ arises at a definite moment during embryonic development, and at this time is more rapidly proliferating. Arresting growth temporarily at this stage results in deformity while at another time it may not. The definite times at which certain types of defect can be produced have been determined. Twins and double monsters result when growth is arrested at the time the primary embryonic axis is being formed. After this stage they do not result. At another time gross eye defects are produced. Soon after the eye buds off the primary brain vesicles appear, and arrest at this time results in gross brain defect. At other moments malformations of the mouth, the inner ear, the liver and pancreas may be produced.

It should be remembered that these gross defects are produced at early periods when the embryonic cells are proliferating rapidly at different points to form different organs. The production of deformity bears a close relation to the period of proliferation. This is significant when it is considered that the nervous system has a long period of development as compared to some other organs, not being fully developed until some time after birth. It is therefore subject to these arrests of growth over a long period, and the earlier the arrest occurs the more pronounced the result.

4. Endocrine and other metabolic factors operating before and after birth. It is now clearly recognized that the endocrine glands play an essential part in the complicated process of growth. The abnormalities resulting from endocrine dysfunction are well known. However, certain important points are yet to be worked out, such as their part in embryonic growth, the time at which each gland begins to function, and the effect of glandular abnormalities in the mother on the growth and glandular tendencies of the foetus. The embryology of the suprarenal cortex and of the sex organs, considered in the light of Stockard's work, goes far in explaining hermaphroditism and malformations of the sex organs. The significance of this relationship, and the importance of lipoid metabolism in the function of gonads, suprarenal cortex, and brain, as a possible basis for the sexual symptoms in dementia præcox has been suggested by the writer.

In addition to internal secretions a variety of other chemical substances or food factors have been clearly shown to be essential to normal growth. The animals with stunted growth resulting from diets lacking only certain amino acids, vitamines, or inorganic salts, are now pictured in text-books on nutrition. The nervous system in these stunted animals does not seem to have been studied.

5. Infectious and inflammatory processes, such as syphilis, are recognized as causes of defective development.

6. Mechanical causes are also well known, and the cases are classified separately.

From the above considerations it seems probable that the significance of the physical defects of our patients is to be found largely in factors of an external or environmental nature, operating on the germ cells so as to render their product incapable of vigorous and complete development, or operating after conception so as to interfere with the normal growth of the embryo. The patient is to be looked upon as the end result and the complex result of a long process. To understand the result it will be necessary to study the process, in which both hereditary and environmental factors have played a part.

Significance of Physical Types

The significance of physical types is more difficult to estimate because more factors seem to operate in determining total make-up. As already suggested, the body is made up of individual structures and those factors which have just been discussed as causing abnormal development of individual structures are at the same time determining total make-up. This is especially true of those extreme variations of make-up which Kretschner has collected in one basket, labeled "dysplastic". Here we find a variety of dwarfs, pituitary dystrophy, cretins, giants, and other pathological types, the results of a variety of causes.

Leaving these aside, there are to be considered variations of make-up within normal limits and their division into types. The best opinion seems to be that there are only two well defined human types, the tall and slender type and the short and thick type, variations from these are to be looked upon as mixtures of the two basic types. One explanation for these two basic types is that they have slightly different rates of growth, the tall or linear type having a

more rapid rate than the short or lateral type, possibly due to differences in thyroid control over oxidation and originally determined by iodine supply. The tall people have lived close to the sea and iodine, while the short people have lived in the mountains with a poor supply of iodine.

This suggests another factor in the determination of body type, that of racial heredity. Another factor is individual or family heredity. The hereditary factors have been studied and discussed in detail by Davenport. When we attempt to classify out patients according to physical type we find many who do not seem to fit into either type. They may be the result of racial mixtures, so that it may be necessary for us to have a "melting pot" type. Other factors which appear in actual practice are sex and age. Women do not fit into types as easily as men. Age is a factor which seems to be little appreciated. The body is gradually changing in shape and proportions from birth to old age. The measurements and indices of the adult cannot be applied to children. The make-up of the child often undergoes a striking change at puberty, while adult proportions are not fully attained until several years later, and then involutional changes soon begin. While these changes in body form which come with age may not alter the basic type, they must be constantly considered in measurements which involve soft parts, volume and weight, and posture.

So it seems that while we are able to recognize fairly definite physical types and find that they are closely associated with several different diseases, yet we do not know enough about the meaning of the type, or the disease, or both, to understand the relationship between them.

Clinical Correlations

After the physical aspects of the patient have been studied and classified some idea of their importance may be had by correlating them with the total clinical picture, i. e., with the clinical diagnosis or classification. One difficulty here is that wrong or too sweeping or dogmatic conclusions are likely to be drawn. If a given physical abnormality is found to occur with significant frequency in a given psychosis there is a strong tendency to attempt to explain the entire clinical picture on this basis. Such conclusions are not convincing and the actual facts established are likely to be ignored. The phy-

sical findings should square with as many clinical facts as possible, especially those in the same category, but they should not be made to account for everything. Other things have also contributed to the total clinical picture. On the other hand significant physical findings may not be brought out unless some additional factor enters into the correlation. A good example is the age factor. It has been shown repeatedly that physical findings in a given psychosis appear much more significant when arranged according to the age of the patient. In some instances the present age is significant, while in others the age of onset is more important. The significance of age depends upon the factor of growth and the body changes of involution. It is also to be appreciated that the clinical picture varies with age.

So it becomes evident that before any very close correlations are established the mental make-up and psychosis must be subjected to analysis to isolate separate factors which seem closely related to the physical findings. In patients with functional psychoses this is no simple problem, but in those with mental defect it looks easier, at least to the uninitiated. The degree of mental defect is said to be roughly proportional to brain defect. Brain development is therefore the first and paramount consideration. The entire process of normal brain growth needs to be studied, and abnormal development compared with it. From a study of all of the defects of development which the patient presents, and their possible causes as outlined above, some ideas may be gained as to the cause of imperfect brain development.

The point to be emphasized is that in the study of physical make-up and physical defects it is necessary to take a new point of view. It has not been found useful to describe and classify the end results, but possibly it will be of some value to study them in terms of the processes which have produced them. There is now available considerable knowledge of the nature of these processes.

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THE VALUE OF OPHTHALMOSCOPIC SIGNS IN THE PRE-APOPLECTIC STAGE*

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In presenting the subject of the ophthalmoscopic signs in apoplexy, or its pre-apoplectic stage, we are considering a subject of extreme importance to our patients and to the clinician.

Apoplexy is due to a sclerosis, thrombosis, or embolism affecting the cerebral arteries. These pathological conditions sometimes result in intra-cerebral or subarachnoid hemorrhages, and cerebral softening, which are associated frequently with a co-existing retinal arteriosclerosis, and external eye manifestations, as visual field disturbances, conjugate deviation of eye and head, and pupillary phenomena. Before considering the ophthalmoscopic signs, several facts should be recalled in order to refresh our knowledge of the embryological and anatomical structure of the eye, also some essentials in the use of the ophthalmoscope.

The internal structure of the eye is practically an outgrowth of the brain. In various mental and physical defects, as infantile paralysis, cranial deformities, amaurotic family idiocy, retinitis pigmentosa, etc., the optic nerve and retina show pathological lesions similar to those in the brain.

The cerebral and retinal arteries are both terminal vessels derived from the same main trunk, the internal carotid. The circulation in the retinal vessels can be directly observed and studied. No similar condition exists elsewhere in the body. This coincidence in affections of brain and eye enables us to judge of the correlation in the pathology of brain to eye as well as to their vascular regions, regardless of the fact that frequently in cerebral sclerosis the retinal vessels are normal.

The examination of the fundus after recording the vision, is conducted as follows: Palpate digitally both eyes to elicit any increase of intra-ocular pressure. If present, do not instill any midriatic. Then cocainize both eyes with a four per cent solution, using three drops three times, as cocaine does not increase the intra-ocular pressure. This dilation of the pupil is necessary for a proper

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examination. The luminous or electric ophthalmoscope is to be used directly. I have recently devised a green filter for use in the electric ophthalmoscope, in order to procure a red-free light. Vogt originally used solutions for this purpose. This procedure makes possible an early recognition of vascular changes in and around blood vessels. The sclerotic changes, exudate and hemorrhages stand out strongly in contrast to the surrounding normal area.

The healthy retinal blood vessel wall is practically invisible so long as it and the surrounding retinal tissues are normal. We see only the blood column; its wall is only conjectured by its central light reflex. Only under pathological conditions is the wall visible.

Before deciding upon a fundus diagnosis the following data are essential: (1) An accurate and complete clinical history; (2) a knowledge of the appearance of the normal fundi; their physical variations, especially of the blood vessels as they have wide normal limitations; (3) the correction of all refractive errors by the use of proper lenses in the ophthalmoscope before diagnosing a lesion; (4) the knowledge that the appearance of similar fundus pictures can be due to dissimilar pathological conditions, and vice versa.

Arteriesclerotic lesions are exceedingly diverse in their distribution; one vessel or a part of it, or certain regions, may be affected, while others may escape. Disease of the retinal vessels not of local origin is not an absolute criterion of disease of the cerebral vessels; it simply furnishes a presumption in favor of its existence. Disease of the retinal and choroidal vessels may exist without any ophthalmoscopic signs, as proven by microscopic examination; but regardless of this fact they provide the best indicator we possess as to the general state of the vessels.

Raehelmann, in 210 cases of general arteriosclerosis, found that one-half showed changes in the retinal vessels. These findings were confirmed by three authorities.

Geiss followed a subsequent history of 17 patients for several years to decide the question of how often the cerebral applications occur under these conditions, and whether the ophthalmoscopic picture allowed a definite prognostication of a subsequent cerebral lesion. The ophthalmoscopic diagnosis of arteriosclerosis was absolutely certain, and the changes were present in both eyes. Five of these patients were between 40 and 47 years of age; four between 60 and 67 and one over 70. All suffered from apoplexy, generally

after the recognition of the retinal lesion though in some cases the apoplexy preceded or was simultaneous. Death usually resulted from apoplexy within four years.

Fundus diagnoses are frequently requested in cases solely of persistent high blood pressure of unknown origin, so-called essential hypertension. Some consider this symptom as a forerunner of general arteriosclerosis and nephritis. I have been unable to find in such patients any change in the retina. When retinal changes become manifest there is probably present a co-existing cardiac hypertrophy and a general arteriosclerosis. The pathology of retinal arteriosclerosis consists in a proliferation of the endothelial lining, mainly of the capillaries, and a hyaline degeneration of its wall. These conditions produce a narrowing of the lumen of the vessels also white lines along their border, as perivasculitis, also white cords, apparently due to endarteritis, oedema of papilla or retina, small whitish exudates and hemorrhages. The veins undergo similar changes to a less degree. The changes which induce degenerative and inflammatory changes in the retinal vessels are: (1) Persistent high blood pressure; (2) circulating toxic conditions from syphilis, kidney disease, lead poisoning, associated diabetes; (3) senile changes; (4) cardiac hypertrophy.

The fundus findings in retinal arteriosclerosis are usually divided into suggestive or early signs, and pathognomic signs. With the suggestive signs we should have the associated symptoms of an arteriosclerotic disease, nevertheless it must be remembered the blood vessels exhibit wide alterations within physiological limits. The suggestive signs are: (1) Uneven caliber and undue tortuosity of the arteries, (2) prominence of its central light streak, (3) light color of the arteries, (4) dilated and tortuous veins.

The pathognomic signs are: (1) The arteries are decidedly contracted and tortuous, especially the secondary and tertiary branches; (2) white stripes bordering the arteries (peri-arteritis), or complete obliteration of the lumen (endarteritis), which appearances produce the silver wire aspect; (3) alternate contraction and dilation of veins due to areas of endothelial proliferation and indentation of veins from a varying amount of mechanical pressure when crossed by hyalinized arteries: The arterial crossing of the veins by the arteries or vice versa, produce the following important effects on the vein, depending upon the degree of arteriosclerosis:

(1) Slight flattening, (2) pushing it aside, (3) direct indentation. At the proximal portion of the vein, or the portion between the arterial crossing and the disc, the light reflex is apparent ,but beyond the crossing or at the distal portion of the vein the light reflex is absent and blood column is dark. This, of course, is due to the venous return flow being partially obstructed by pressure of the crossing artery.

In general arteriosclerosis, when only vascular changes are present in the fundus, we diagnose the condition as a sclerosis of the retinal vessels; if inflammatory signs (such as exudates or hemorrhages) are associated, we diagnose the condition as an arteriosclerotic retinitis. Other etiological factors of retinosclerotic origin are: (1) Thrombosis of the central vein; (2) embolism of the central artery; (3) syphilitic retinitis, renal retinitis, (not albuminuric, since albumen may be absent), diabetic retinitis, retinitis circinata, or retinitis pigmentosa.

In retinal arteriosclerosis, the important question is not the prognosis of the eye condition, which is here of secondary importance as compared with the prognosis as regards the life of the individual; but the conditions of the kidneys, arteries and heart. The visual disturbance depends upon the area involved, and at times this condition may be markedly improved despite the patient's general physical condition.

Finally, in the presence of a retinal arteriosclerosis, not of local origin we are justified in concluding that a co-existing lesion is probably present in the cerebral vessels; also that we are frequently able to diagnosticate ophthalmoscopically a reino-vascular disease which is an important sign of cerebral arteriosclerosis, this being a direct menace to the patient's life.

SYPHILIS AND EPILEPSY*

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The conception, still widely current, particularly among the laity, that there is a syphilitic basis underlying the manifestations of epilepsy persistently brings up the topic of the relationship existing between these two pathological conditions. In an effort to deal with this problem, the subject must be approached from more than one angle before attempting to reach a logical conclusion, for it involves the questions (a) of the relative incidence of syphilis in epileptic and non-epileptic groups and (b) of whether in the former its relation is etiological or coincidental.

In considering the relative incidence of syphilis in epileptics and non-epileptics, its occurrence in the general population and among the feebleminded and psychotic may be contrasted with its appearance in epilepsy.

In 1896 Whitney[1] has recorded that in a study of 7,885 normal whites, he found 6.9 per cent syphilitic. In the same year Moore[2] reported 13.4 per cent of syphilis among his 418 medical cases. Hazen[3] is authority for the statement that Fox found 3.9 per cent of syphilis among 15,000 whites. Walker and Haller[4] in 1909 determined the frequency of a positive Wassermann reaction among 4,000 general hospital cases as 600 or 15 per cent. Colonel Vedder[5] of the Army Medical Corps estimates that 20 per cent of the young men of that class from which the army is recruited are syphilitic and further intimates that about 17 per cent of the recruits were syphilitic before enlisting. The same author also believes that about 5 per cent of college men are luetic. These figures are undoubtedly somewhat high as they are based on observations in urban centers; investigations in rural districts would probably disclose an appreciably smaller number, thereby lowering the average percentage of the occurrence of syphilis in the general population.

The relative incidence of syphilis in urban and rural communities is quite well illustrated by the frequency of this condition among admissions to State hospitals from the city and from the country respectively. In the former its occurrence among the

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admissions has been estimated as being about 22 per cent, while in the latter it seems to be about 8 per cent.[6] These figures will also serve to call to mind the relative prevalence of syphilitic mental disorders in State hospitals a fact of which we all are aware.

In a typical group of the feebleminded, Bernstein[7] states that in 800 cases about 5 per cent gave a positive Wassermann, which was usually confirmed by the clinical findings in those showing the positive reaction. Moreover, repetition of the observation on the same group to which a few new individuals had been added, gave the same complement fixation although the results were not quite so closely corroborated by the physical findings as before. In 1914 Stoner and Kaiser[8] found 7.9 per cent of positive Wassermann reactions in a series of 1,050 cases of all grades of amentia. Of these 83 positive cases, acording to the Binet-Simon test, 17 were idiots, 40 imbeciles, 23 morons and 3 backward. In striking contrast to these observations, Raviart, Breton and Petit[9] have reported from 30 to 40 per cent of positive Wassermann reactions in epilepsy. But Atwood[10] found that only 14.7 per cent of 207 idiots gave a positive Wassermann; Moulton,[11] at the Minnesota State School for the Feebleminded, in examining 600 patients encountered a positive reaction, ranging from slightly positive to strongly positive, in 77 individuals or 12.83 per cent of cases; and in a series of 1,113 Wassermann examinations made in the Sonoma State Home for Feebleminded Children in California, only about 5 per cent also were positive.[11]

Data on the prevalence of syphilis among epileptics is rather meagre and the interpretations of it attempted by different investigators is somewhat at variance. The earlier writers generally accepted the conclusion that syphilis and epilepsy are frequently associated as cause and effect respectively; among the later ones, however, there is a tendency to look askance at this conception and to assume that their joint occurrence in an individual is often coincidental.

In the edition of his Practice of Medicine, which appeared in 1902, Osler[12] makes the statement that the convulsive seizures due to acquired syphilis of the brain are very common. Yet five years later Aldren Turner[13] was obliged to report from his observations that he had seen only 4 cases of congenital lues among 1,000 cases of idiopathic epilepsy and that these presented no unusual features.

On the other hand, in his Serum Diagnosis of Syphilis, Noguchi[14] has an account of the results of an examination of a group of 51 epileptic individuals—without either a history or clinical symptoms of syphilis—in which he found 20 per cent of positive and 6 per cent of doubtful reactions in the blood serum. In the cerebrospinal fluid of these cases, he obtained 4 per cent of positive and 2 per cent of doubtful reactions, although pleocytosis was absent in all of them.

Walker and Haller[4] found that in 71 cases of epilepsy, 14 per cent gave a positive Wassermann without apparent cause. Of the 10 cases, 3 had had no attacks for a year after treatment with salvarsan; in the remaining 7 who were treated with intramuscular injections of mercury, the attacks were relieved while under observation. In 35 of these cases, including the 10 positive ones, the cerebrospinal fluid Wassermann was negative with a very sensitive antigen and gave a normal cell count. This discovery of an unsuspected masked syphilitic infection in their epileptic patients led these authors to the conclusion that all cases of epilepsy should have a routine Wassermann—as is now almost universally the custom.

In Bielefeld in 1912, of 800 Wassermann tests performed with the sera of epileptic patients of all ages, only a small percentage of results were positive.[11]

According to Veit,[15] lues in its congenital form appears among 7 per cent of the patients at Wühlgarten, Germany, while Bratz[16] discovered syphilis in the parents of 5 per cent of 400 cases from this institution.

In the Massachusetts institutions for epileptics, Flood[17] reports that Wassermann reactions in 535 consecutive cases showed only 3.34 per cent of positive reactions.

In 1916 Shanahan, Munson and Shaw made a comprehensive study[18] of the relationship between syphilis and epilepsy, drawing their data from very extensive sources. These authors found that the clinical data from 4,100 cases of epilepsy suggested the presence of syphilis in only 133 instances or 3.2 per cent, and that the Wassermann reaction, applied to 1,473 cases, disclosed luetic infection in less than 2 per cent. They also report that luetin tests on a small group of 143 individuals, including suspects and children, gave 19 per cent of positive results although this high figure would have been reduced to 12 per cent if the suspects had been eliminated. In a series of 600 brains examined at autopsy, they found syphilitic lesions in only two—both of which were gummata.

Buchanan[19] in an investigation of 128 cases of epilepsy in 1918 found the Wassermann reaction negative in every instance.

Rawlings[20] a year later, studying the colloidal gold curves in a large number of psychiatric patients, included 40 epileptics in whom the gold curve failed unanimously to show any indications of syphilis.

In 1921 Novick[21] of the U. S. Public Health Service noted a positive Wassermann reaction in only 2.2 per cent of the 231 cases under his observation.

The writer has found upon reviewing the records that 2,240 blood Wassermann tests have been done on epileptic patients in the Craig Colony Laboratory during the period of the last eight years and of this number but 40 or about 1.8 per cent have given a four plus reaction.

The results of the observations of other authors just described and the writer's own experiences indicate quite clearly that, with a few notable exceptions—all of which are based on series of cases too small for adequate generalization—the incidence of syphilis in epilepsy is less frequent than among the insane or even among the feebleminded, and that the occurrence of this disease among epileptic patients does not seem to exceed the limits of the range within which it appears in the population as a whole.

Now, having considered the relative incidence of syphilis in epileptics and non-epileptics, we may turn to the question of whether the syphilis which manifests itself in epilepsy in about the same proportion as it does in the general population as a whole, bears, when present, a casual or a coincidental relation to the convulsive state. In dealing with this phase of the subject, an analysis of the writer's own material may, perhaps, prove helpful. These data were secured by the employment of a modified technique requiring one-fifth original Wassermann quantities of reagents, which were incubated in the water bath for one-half hour intervals, with the use of two antigens—a simple alcoholic, and a cholesterinized, one. By this method the 40 four plus Wassermann reactions previously alluded to, were discovered in the course of a routine examination of the blood of 2,240 epileptic patients. The individuals from whom the positive sera were obtained were quite evenly divided as to sex, there being 20 males and the same number of females; and included

a variation in age ranging from childhood to middle life in both sexes. To these there must be added one colored male in whom the clinical diagnosis could not be confirmed serologically.

Of the 20 luetic females, 7 were suffering from congenital, and 10 from acquired, syphilis while 3 could not be classified. All of the congenital group gave a four plus Wassermann, but, of the 7, 3 showed no clinical manifestations of the disease and were not diagnosed until after the serological examination. Moreover, one of these, a little colored girl of 13, (clinically diagnosed) had been examined 12 years previously, when her Wassermann was reported negative, 4 of the 7 have as yet received no antisyphilitic treatment; the remaining 3 (2 clinically diagnosed; 1 undiagnosed clinically) have been on mixed treatment. One (clinically diagnosed) showed improvement in gait and mentality and had only one seizure during her 13 months' residence at the Colony; her history, however, indicates that she only averages about one seizure a year.

The acquired group likewise all gave positive four plus reactions. Six were diagnosed clinically as well as serologically but four showed no clinical evidences of syphilis and were diagnosed on the basis of complement fixation alone. Again, 3 of these have not yet received anti-syphilitic treatment, while the remaining 7 (3 undiagnosed clinically, 4 clinically diagnosed) have been treated, 5 with mixed treatment, 2 with injections of protoiodide. Of the 5 on mixed treatment, one (undiagnosed clinically) showed marked improvement, becoming seizure free while on the treatment, although attacks again supervened upon its cessation; a second (diagnosed clinically) showed some slight improvement with a very moderate decrease in the number of convulsions; the result in a third (undiagnosed clinically) was questionable, for she averaged 30 seizures annually before and while on mixed treatment, but showed an increase to double that number after the patient was taken off her treatment. Whether this was the result of progressive deterioration or whether there was really some therapeutic benefit during the administration of the drug is difficult to say; the 2 remaining acquired cases on mixed treatment showed no improvement under the treatment.

Of the 2 cases receiving protoiodide, one showed marked improvement and has become and remained seizure free. In the other, a luetic monoplegia was cleared up by the treatment but her attacks remained unaffected. (Both clinically diagnosed.)

In both of the cases where there was a cessation of convulsions upon antiluetic treatment—one with mixed treatment and the other with protoiodide—syphilis was acquired before the epilepsy appeared. In the other cases, as far as could be ascertained, the converse obtained.

Of the 3 female patients in whom the syphilis could not be classified, all had a four plus Wassermann, Two were clinically diagnosed while one escaped detection until after the serological examination. Moreover, 2 received no treatment while the one receiving mixed treatment (undiagnosed clinically) showed no improvement.

Five of the female group have subsequently died, and 3 have come to autopsy; 2 of these have shown no post-mortem evidence of a syphilitic involvement of the central nervous system while the third, the case remaining seizure free on mixed treatment, showed a syphilitic aortitis and a syphilitic endarteritis at necropsy.

Of the 21 luetic males, 5 were suffering from congenital, and 14 from acquired, syphilis while 2 remained unclassified. The congenital type all gave a positive four plus Wassermann but only one was diagnosed clinically; 4 received no treatment but one (undiagnosed clinically) was given a course of sulpharsphenamine. However, he showed no improvement under treatment.

Thirteen of the 14 cases of acquired syphilis gave a positive four plus Wassermann, the remaining one, a colored man of 32, gave a negative Wassermann but he was included in the group because the ophthalmologist insisted that he presented with a syphilitic retinitis. He was, by the way, decidedly evasive in answering any questions relating to his venereal history; 8 of the 14 presented clinical symptoms while 6 escaped clinical diagnosis. Six also received no treatment while 8 (7 clinically diagnosed and one undiagnosed clinically) were given a course of sulpharsphenamine. Seven showed no improvement and the eighth has had no seizures during his 17 months' stay at the Colony. It is not improbable that his commitment may have been due to his previous (outside) antiluetic treatment causing him to develop convulsive manifestations as is sometimes the case. Lesser[22] has recorded epileptiform convulsions occurring 8 weeks after the use of salvarsan and refers to 17 similar cases in the literature. More recently (Surg. Lieut. Command.) Hitch[23] has reported 2 cases in which the administration of salvarsan to 2 young sailors, in excellent health except for their syphilis, caused the development of epileptiform seizures

and coma and terminated fatally. Thus, this eighth case may be simply one of lues which the treatment caused to simulate epilepsy.

The 2 males whose syphilis could not be classified both had positive Wassermann reactions—four plus. One was diagnnosed clinically and one was not. Neither have been treated.

Six of the male group have died subsequently and four have come to autopsy. None of these showed any post-mortem evidence of a syphilitic central nervous system involvement.

The series of cases just presented, although distributed over a period of eight years of observation, are probably too few in number to justify any attempt at generalization. Nevertheless, they seem to the writer to suggest with some emphasis that in most of these cases the syphilis appears as a coincidental element rather than an etiological factor. This view is somewhat at variance with the opinion of Ledredde, who, writing in the Presse Médicale for 1921, believes that the frequent appearance of syphilis and epilepsy in conjunction[24] should be regarded as more than a mere coincidence. To so regard it, however, seems to the writer the most logical means of interpreting the findings previously enumerated.

The objection may be advanced, as the writer fully realizes, that some congenital cases without either clinical signs or symptoms or a positive Wassermann reaction may have escaped detection. Indeed, it is rather unusual that all the congenital cases encountered did give a positive Wassermann. This criticism naturally stands; obviously, from the very nature of the difficulty, there is no way in which this objection may be overcome.

In conclusion, the writer feels that the account submitted justifies the following inferences:

1. In the group of 41 luetic epileptics discussed, syphilis appeared much more frequently as an incidental element than as a casual factor.

2. In those instances where it assumes an etiological role, the syphilis precedes the epilepsy; in those instances where it appears as an incidental element, the syphilitic infection is, as far as could be ascertained, apt to run its course independently of the epilepsy.

3. In the former event anti-luetic treatment seems decidedly beneficial in ameliorating the consequent convulsive disorder.

4. In the latter event the effect of anti-syphilitic treatment on the course of the epilepsy is very dubious.

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EPIDEMIC ENCEPHALITIS*

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When Commissioner Parsons asked me to present a short paper at this Conference, I rather hesitated, as I realized that it would perhaps be difficult to select a medical subject which would interest a composite gathering, although our membership is largely medical. However, in view of his *beau geste* in asking us as members of the Boards of Visitors to speak, I wished to do what I could to carry out his idea.

It occurred to me that if I could give the results of some observations made in my clinical work with epidemic encephalitis, that they might be of some value, or at least provocative of profitable discussion.

You will recollect that in the winter of 1918 and 1919, there suddenly appeared in the United States, a peculiar disease of the central nervous system. This occurred in various parts of the country. It was of fairly wide distribution, and apparently remained endemic in some areas, particularly in and about New York. This disorder seemingly had not been previously recognized in the United States. However, what was believed to be the same condition had been noted in the winter of 1916 in Vienna by Economo, in France in 1917 by Calmette, in Germany in 1918, and in England in 1920 by Hall and Harris.

It was of variegated symptomatology. A number of different types were segregated by various observers. These were based largely on the characteristics of the clinical manifestations. They included according to Barker:

1. Somnolent (ophthalmoplegic)
2. Paralytic (akinetic or hypokinetic)
3. Amyostatic (Parkinson)
4. Hyperkinetic (myoclonic-choreatic-epileptic)
5. Psychotic
6. Hyperalgesic (painful)
7. Tabetic (Argyll Robertson pupils—absent reflexes, lancilating pains)

* Read at Quarterly Conference at Manhattan State Hospital, Ward's Island, New York City.

8. Ataxic
9. Abortive
10. Aberrant (intestinal and cutaneous forms)

In face of the variability of the symptoms, there appeared to be sufficiently close agreement among those who studied the disease to regard it as a definite entity. Flexner considered it was the original appearance of the disorder, not identifying it with previous occurrences of epidemic diseases of the brain. However, it has been the opinion of a number of observers that possibly it was of the same origin as anterior-poliomyelitis.

As regards the etiology nothing definite has been determined. The possibility of a neurotropic virus has been considered, because that causing simple herpes has produced in rabbits a disease resembling human encephalitis, but this virus has been found only in a small number of cases. However, the possibility of a virus being concerned is important, especially as a fairly large number of cases have been reported in which encephalitis has occurred following vaccination. There is no doubt that the vaccine virus has an affinity for nerve structure, and that this is increased by other factors, which influence the permeability of the nervous system, but Zinsser and Tang (J. Exper. Med., July 1, 1926) concluded that no valid proof existed on which to base the identity of the virus of herpes with that of encephalitis lethargica.

Other observers, including Freeman and Evans (Pub. Health Reports, June 4, 1926) and Rosenow, have regarded a streptococcus obtained from nasal washings, heart blood and mid-brain, as the cause. This was highly virulent when inocculated into the brains of rabbits.

The onset of the disorder was usually acute, and even abrupt, but occasionally subacute, and at times relapsing. Other cases tended to chronicity with recrudescences. The prodromata have been headache, slight sore throat, chilly sensations, mild gastro-intestinal upsets, lassitude and general weakness. With development, there were signs of meningeal irritation, increasing headache, occasionally convulsions, then ophthalmoplegia and somnolence. In the United States cases usually began with a severe pain in the head, fever and delirium, and there were a few days with improvement, followed by apathy and somnolence. In other cases there was an initial restlessness and insomnia preceding the somnolence; and

again the development was insiduous, with diplopia, transitory cerebral nerve paralyses, neuralgias and slight mental confusion.

Recently more cases showing hyperkinetic phenomena have been seen with myoclonia and choreatic disturbances, paralyses—especially ophthalmoplegia, but also facial and masticatory, dysphagia, ptoses, strabismus, diplopia and paralyses of accommodation, with sluggish pupils which tend to persist and occasionally mono, hemi, and paraplegias.

Myostatic disturbances were not infrequent, but more so than spastic states. Alteration in tonus, rigidity and catatonia occurred.

Hyperkinetic phenomena, due to meningeal irritation, included myoclonias, fasicular and fibrillary twitchings, epileptiform convulsions, choreiform states and even maniacal attacks ensued.

The sensory changes were less than the motor. Spontaneous pains, vague rheumatic pains, headaches, various neuralgias, lancilating pains like tabes and polyneuritis, have been present. Anesthesias were uncommon.

The special senses showed impairment, with tinnitus, deafness and dizziness. The eyegrounds were invariably normal. Dimness of vision occurred due to paralysis of accommodation and not to involvement of the conduction paths.

The reflexes were not usually altered. Occasionally they were hyperactive. Rapid changes could occur from day to day. A Babinski was present at times.

Incoordination was not marked. There were occasional nystagmoid movements.

Of particular interest has been the occurrence of chronic forms and so-called post encephalitic sequelae. The latter occur in about 75 per cent of cases. Apparently, the severity of the original disorder has no great bearing upon the extent of the residuals which may occur. Cases which are intense in the acute phase occasionally apparently fully recover. On the other hand, mild cases show persistent symptoms, and exhibit recrudescences and recurrences. The sequelae may include paralyses, hyperkinetic phenomena, including tremors, twitchings, choreatic and athetotic movements, myoclonias, and even convulsive seizures, as well as ataxic and asynergic conditions. The sensory sequelae include pains, hemianesthesias, amblyopias, hemianopsias and vertigo. The automatic pupillary disturbances, either myosis or mydrisis, Argyll-Robert-

son pupils, sialorrhea and hyperhidrosis. The psychoneurotic and psychotic, disorders of sleep insomnia, reversal of the sleep cycle, affective disorders, impulsive acts, anomalies of behavior, disturbances of mood, irritability and agitation, asthenic states, manic-depressive and schizoid syndromes, and occasionally mental deterioration.

There has been no occurrence in the field of neurology that has been as illuminating as encephalitis, in that its manifestations may ape practically every neurological entity. This has been particularly true in its production of a Parkinsonian syndrome, which has given wide opportunities for observation and study of disturbances of the corpus striatum and the extra pyramidal tracts. In chronic cases of long duration, there are inflammatory changes in the substantia nigra. Apparently acute exacerbations produce inflammatory changes in the lenticular nucleus, and elsewhere. Degenerative changes are more diffuse and affect the grey matter chiefly of the striatum, pollitum, thalamus, hypothalamus and the cerebellar nuclei, and to some extent of the cortex. The pollitum is especially affected in marked Parkinsonian cases. The putamen with those of a choreiform character. Vegetative disorders like salivation and cyanosis appear to be related to changes in the hypothalamus.

In a disorder with such extensive manifestations, it is almost necessary to consider these at different levels. At the laboratory level there are no particular changes. The cerbrospinal fluid is usually normal. The blood changes are not of moment, and those in the urine only slight. At the physical level, the effects are merely such as would be expected as a result of a severe illness. However, of particular interest are the metabolic disturbances, including endocrine changes, glycosurias, diabetes insipidus and obesity. At the neurological level, the changes are predominant, as have been described, and of particular interest those affecting the autonomic nervous system, such as the occurrence of a Horner syndrome.

This disease, especially in the chronic phase, permits several interesting analogies to be drawn. Freeman (J. A. M. A., Nov. 13, 1926), suggested that the so-called sequelae of encephalitis are due to a continuance of the infection, just as paresis is due to the persistence of the organism of syphilis, and this was previously emphasized by Bassoe (J. A. M. A., Dec., 30, 1922), who used the same comparison to illustrate the connection between the acute and

chronic stages of encephalitis, believing that the virus, like that of syphilis, may remain dormant, and then give rise to a chronic and degenerative process. Now that there are many cases of long standing, there is excellent opportunity for better investigation along these lines. An effort should be made as far as possible to obtain necropsies in such cases, especially where there are complete records of the previous clinical findings. No doubt such a course would prove of invaluable help in elucidating the problems presented by involvements of the extra pyramidal system, and the basal nuclei. We know that the effects of syphilis on the nervous system are extensive and variable, but the action is rather a chronic delayed destructive process, particularly affecting the motor elements of the brain in the nature of a progressive degeneration, whereas encephalitis acutely affects the nerve tissues by extensive perivascular inflammation, mostly involving the sensory structures, although not entirely so. The maximum effect is initial. This is followed by more or less improvement as the acute inflammatory process decreases. Later, there occurs a subacute or chronic stage inducing degeneration.

Another point of interest has been the supposed connection between epidemic influenza and encephalitis. Influenza has occurred in cycles as a pandemic disease. Some of you may recollect that when it occurred in the ninetys it seemed to be most manifest in the nervous system. The next epidemic was intestinal and that in 1918, largely respiratory. The fact that encephalitis occurred as a sudden outbreak following the 1918 influenza epidemic gave credence to the belief that there was possibly some causal connection. However, it now appears to be the consensus of opinion that while epidemic encephalitis has occurred in a small proportion of influenza cases, this was perhaps due to the fact that an attack of influenza was only a predisposing cause, and that the concurrence of the two disorders in other instances was accidental, and without necessary causal relation. There is no doubt that influenza may produce an encephalitis but this is not of the same character, as epidemic encephalitis.

Another interesting analogy is produced by the fact that this disorder has been termed "sleeping sickness". You will recollect that it was so-called because at first, particularly in Europe, rather than in this country, it produced lethargy which was likened to that

in true sleeping sickness, trypanosomiasis. This you will recall is an endemic disorder occurring in South Central Africa, especially about Lake Tanginika, caused by a blood flagellate, the trypanosome, occurring in two types, a severe, due to the trypanosoma Rhodesiense transmitted by the tsetse fly, glossina Morsitans; and a milder, due to the trypanosoma Gambeinse—transmitted by glossina palpalis. Also you will recollect that it was the effort to discover an adequate treatment for this disease that led to the work of Erlich with the arsenical derivatives, which produced salvarsan and neosalvarsan. It was estimated because syphilis was due to a treponema, that these preparations which had proven effectual in trypanosomiasis, might be of avail in combating the treponema, as they were so found.

Naturally this brings us to the discussion of treatment. It can be stated that practically all sorts of measures have been utilized in the treatment of encephalitis. These have included chemicals, such as the arsenicals, urtropine, mercurochrome and acriflavin, the use of protein shock by aolan anti-diphtheretic serum and typhoid vaccine; also the alkaloids, such as hyoscine, atropine and nicotine—these particularly in the Parkinsonian syndromes, and the last in order to affect the sympathetic innervation.

While claims have been made of benefit by those who have utilized these treatments, it does not seem that any of them have had any specific effect; possibly acting in a symptomatic way only.

In view of the analogy to syphilis which has been made, and the fact that a causative organism has not been isolated, and considering the possibility that it might eventually be ascertained that the disorder is due to an organism, such as a spirochete, in one of my clinics after having used practically all the measures of treatment described, we undertook to treat a series of cases with bismuth. Apparently the results obtained with this method of treatment have exceeded those which we have obtained otherwise. It will soon be possible to report a fairly large group of cases, indicating the results obtained.

Because of this same analogy, the suggestion has been made to utilize the malarial treatment, as suggested by Wagner von Janregg, which was originally suggested by Koster as early as 1848, and later by Nasse in 1864, and Rosenblum, in the same year. However, now that cases of paresis which have had this treatment in

which remissions were provoked, are beginning to return, it is not likely that the end results will prove any more effective than the previous measures. Treatment by inoculations with the treponema Dutoni of African relapsing fever have not resulted in any more benefit.

In the State hospitals we are receiving cases which have mental syndromes. No doubt further demand will be made for the reception of such cases. This presents a problem which will have to be met. Perhaps it will not be possible to avoid the admission of cases with psychotic manifestations any more than like cases due to syphilis. If not, it is likely that our resources will be greatly taxed.

With the clinical material thus available, a comprehensive study should be undertaken in order to assist in working out the whole problem.

BOOK REVIEWS

Outlines of Abnormal Psychology. By WILLIAM MCDOUGALL, Professor of Psychology in Harvard College. Charles Scribner's Sons, New York.

Professor McDougall's earlier work, "Outlines of Psychology," he regards as Part I of a complete work, of which "Outlines of Abnormal Psychology" composes Part II. His aim has been to bring together in one consistent scheme what seems to be the soundest and most fruitful in contemporary academic psychology and in the various schools of abnormal psychology. He gives special attention to what he thinks of most value in the teachings of the psychoanalysts. He gives Freud's work the high encomium of having advanced psychology more than any other student since Aristotle.

McDougall's work, however, makes no pretension to be a text-book of psychiatry, of functional neurology, or of psychotherapeutics. Its standpoint is not that of the clinician or medical specialist, but rather that of the student of human nature. Hence it is little concerned with the classification of diseases. He discusses only the different types of disorder-processes which enter into various combinations in the recognized mental diseases. Furthermore, he confines his inquiries to those disorder-processes that seem to be of a functional nature, making no attempt to deal with the vast field of disorders due to organic lesions. In other words, he confines his work to what may be thought of as strictly psychological. He recognizes that the main difficulty in the way of progress is the vast extent of the studies required in order to achieve general competence in the field of psychology. A single lifetime seems hardly sufficient for an individual. In fact, the time has undoubtedly come for a cooperation of many specialists in the construction of the necessary knowledge at the foundation of psychology.

Professor McDougall discusses in order the following topics: Schools of abnormal psychology; the nature of functional disorders in general; fatigue, drugs and sleep; hypnosis; theory of hypnosis and suggestion; theories of suggestion of Janet and Freud; dreaming; Freud's theory of dreaming; Jung's theory of dreaming; day-dreaming; conflict, repression, and the complex; dissociation; automatism-fugues, somnambulism, fits; vague fears and anxieties, symbolization and symbolic symptoms; regression; tics and stereotyped movements; compulsion and obsessions; perversion of the sex-impulse; delusions; hallucinations; exaltation and depression; schizo-

phrenia; epileptoid seizures; Freud's view on the nature and causation of neurotic and mental disorders; Freud's therapy; Dr. Alfred Adler's theory of neuroses; psychotherapeutic methods and mental hygiene; alternating personalties; coexisting or coconscious personalities; trance personalities; theory of personality and its disintegration; integration and disintegration from the point of view of consciousness. Appendix—The definition of the sexual instinct. An index is useful by way of reference.

It is impossible to do justice to the lines of argument in so vast a subject and with such a variety of topics in a brief space at our command. The reader must be referred to the work itself for a detailed study.

The author takes issue with those that hold all pathological mental phenomena is caused by organic neural derangement. He distinguishes clearly the problems of structure and function. He holds that all medical authorities now recognize that large groups of disorders classed as psychoneuroses are functional. Yet there are differences of opinion as to which are organic and which functional. He approaches the problem from the bodily as well as from the mental side and shows that there are many functional effects which are recognized for which no observable lesions can be discovered, and that also that there are evident functional effects upon the body as well as organic effects on function.

The work, in general, lacks a certain close unity that is to be desired, from the reason that it is made up to quite an extent by quotations from sundry writings contributed by the author on different occasions, addresses and articles in the current magazines.

Sleep and hypnosis he conceives to be due to various degrees of intimacy of connection between neurons and between groups and systems of neurons conditioned by the functions of the synapses or junctures of neurons. If excitement spreads readily from one group of neurons to another, it is because the synapses at the moment have low resistance, and if they spread less to others it is because of greater resistance. Normal sleep implies a state of relative disoociation of brain from the neurons of the body. Hypnosis is of similar character. But we are compelled to feel that all this is rather speculative. Many neurologists differ in regard to the synapses and their function; it is not established that there is any such action in the synapses. Indeed it is even contended by some neurologists that the neurons, as distinct units of the nervous system, cannot be maintained.

Professor McDougall throughout seems to be very fond of theory. In matters of such vital importance one could wish more for scientific fact, if such be available. It may be true that we know not the facts in such matters, and in which case theory is perfectly allowable, but the speculative theory can only be tentative and we must await verification and establishing of the fact if such be possible.

In justice to the author, however, it must be said that he himself explicitly disclaims any finality about his views, and specifically states that he regards his work as an early, if not the first, attempt to bring into something like systematic order a very large and difficult province of science hitherto cultivated in patches rather than as a whole.

He gives higher merit to the contentions of Freud than many persons will be willing to concede. Symbolism as taught by Freud can hardly be thought to have any scientific foundation at all. The author criticises Freud's theory and interpretation of dreams, particularly his exclusive sexual interpretation of them, but nevertheless gives the doctrine his sympathetic approval in its general bearings.

The discussion of conflict, repression, and the complex is of particular interest. These are real mental phenomena whatever may be their explanation. The point of theoretical interest is that the abnormality of response seems to be due to conflict of affects. It is not merely that the stimulus has emotional value for the subject; emotional value or coloring has in itself no inhibiting or distorting effect; it is that the affect stirred by the stimulus is one that is in conflict with dominant tendencies and therefore subject to repression.

Dissociation is regarded as a form of amnesia. Memory seems to be lost completely. Dissociation differs from repression also in that it is apt to be suddenly instantaneously accomplished. It manifests itself in many cases after a trance, swoon, or what seems to be a sleep of unusual duration. Yet there is evidence to warrant the view that no dissociation takes place without some previous repression that prepares the way for it. Or active repression may maintain the dissociation. In many cases of dissociation, the belief that the disability is a serious and enduring one seems to be the main obstacle to cure. Apparently no organ of function subject to nervous control is exempt from the incidence of dissociation.

McDougall regards so-called automatisms as expressions of mental activity as truly as any other actions. They have to do with a subsidiary stream of conscious mental activity, which he describes as "co-conscious activity."

Fugues, he thinks probably, are the realization of some fantasy previously generated by a repressed desire for escape from past scenes; prepared by day-dreams motivated by repressed tendencies, and occur generally at the moment of some emotional shock. Somnambulism he believes to be closely related to fugues. Ties and stereotypes movements are also regarded as expression of certain mental activities, and the persistent movements express a repressed affect; the movement symbolizes the affect or the situation that aroused it.

An extensive study of cases is undertaken in relation to the phenomena of regression, compulsions and obsessions, perversions of sex-impulse, para-

noia, hallucinations, exaltation and depression, schizophrenia, epileptoid seizures, with examination of the theories suggested concerning them. An extensive review and discussion of Freud's view of mental disorders and therapy is presented, together with the modified view of Dr. Alfred Adler's theory of neuroses.

From the standpoint of mental hygiene, the author's discussion of psychotherapeutic methods will probably be of greatest interest to the readers of this journal. Here he critically examines the theories of abreaction, methods of exploration in hypnosis and the hypnoidal state, free associations, transference, readjustment, hypnotic suggestion as aid to readjustment, appeal to sentiments, and sublimation.

A case study is made of alternating personalities, of coexisting or coconscious personalities, of trance personalities, and of the theory of personality and of its disintegration, with reference to dualistic and monistic theories. The position of the author may be suggested by quoting his own words, which seem to follow the philosophy of Leibnitz strikingly: "We regard, then, the normal human personality as an integrated system of (such) monads; and the integrated system takes the form of a converging hierarchy. At the head of the hierarchy is the supreme monad which each of us calls 'myself'. And the integration of the system consists in the subordination of the monads of each level of the hierarchy to those of the next higher level. Complete integration according to this plan gives to the supreme monad control over the whole system." This appears like a metaphysical atomism, if not a psychological one.

The work of 572 pages may be regarded as a notable survey, critical and constructive, of the entire field of functional nervous and mental disorders, and can be properly evaluated only by reading the text itself.

GEORGE H. PAINTER.

Preventive Medicine and Hygiene. By MILTON J. ROSENAU, M. D., Professor of Preventive Medicine and Hygiene, Harvard Medical School, with chapters by various authors on Mental Hygiene, Vital Statistics, etc. Fifth Edition. Re-set and brought up to date by being largely re-written, with the addition of many new subjects. Published, 1927, by D. Appleton and Company.

Previous editions were published in 1913, 1916, 1917 and 1921.

According to the preface in the first edition the author's object "is to give the scientific basis upon which the prevention of disease and the maintenance of health must rest * * * for preventive medicine has become a basic factor in sociology."

Having spent more than 35 years in public health work, as quarantine officer in epidemic compaigns, in epidemiological investigations and in public

health laboratories, he is well qualified to present his views gained in the field, the laboratory, the class-room and in administrative offices.

The book may be considered in two parts, namely, that which deals with the person (hygiene) and that which deals with environment (sanitation). The first part takes up, in sections, the prevention of the communicable diseases: First, those having specific or special prophylactic measures, including venereal diseases, with a chapter on the psychoanalytic approach to sex hygiene; second, diseases spread largely through the alvine discharges, like typhoid and cholera; third, those disseminated through discharges from the mouth and nose, as tuberculosis and diphtheria; fourth, insect borne diseases, where he shows the fact that though it was suspected for years that disease may be transmitted through the bites of insects, it was not until 1893 that it was demonstrated, as a new principle, by Theobald Smith, in the case of Texas fever of cattle and the tick. We now know that some diseases are always, and others occasionally, spread through insects. A chart giving the chief insect borne diseases is included with the name of the disorder, the causal factor and the type of insect producing the malady. Considerable space is then devoted to insecticides, the relation of flies, rats, ticks, etc., to disease and methods of prevention and control of these pests.

The second part into which the book is divided deals, in a broad way, with sanitation and covers a multitude of subjects, ranking from mental hygiene and public health measures to vital statistics and school sanitation.

The section on Mental Hygiene is written by Abraham Myerson, M. D., professor of neurology, Tufts College Medical School, who points out that the penetration of psychiatry into society has resulted in a better understanding of heredity and environment as a basis for mental health.

Section three, Conservation of Vision and Ocular Hygiene, by J. Herbert Waite, M. D., instructor in ophthalmology, Harvard Medical School, opens with a condensed summary of our present knowledge of the physics, physiology and psychology of vision. He stresses the necessity of conservation of vision which he believes second only to conservation of life itself, deploring the lack of adequate statistics deemed essential to make this stand out as a vital public health problem. Particular attention to the care of the eyes is advised in this section as well as in that on School Sanitation.

Six sections then take up Public Health Measures, Heredity, Food, Air, Soil and Water. In these 400 pages there is very little new matter except on resuscitation, gas masks and periodic physical examinations.

Sections 10 and 11, on Sewage and Refuse Disposal, by Gordon M. Fair, assistant professor of sanitary engineering, Harvard Engineering School, is based upon material prepared by the late Professor George C. Whipple for previous editions of this book. It is all clear and well written, profusely illustrated and treats both rural and urban problems quite extensively.

Sections 12 and 13 are closely allied, the first, on Vital Statistics, by John W. Trask, surgeon, U. S. P. H. S., the second, on Statistical Methods, by Carl R. Doering, M. D., instructor in vital statistics, Harvard School of Public Health, discuss the importance and application of statistics.

Section 14 considers Industrial Hygiene and Diseases of Occupation. Section 15, on School Sanitation and Child Hygiene, has some topics largely re-written, particularly Oral Prophylaxis and the Teeth.

The final section defines and describes disinfection, the effects of physical and chemical agents, and various methods used to produce disinfection in bodily discharges, rooms, stables, wells, etc.

The book is especially adapted to the health officer who wishes to keep in touch with the latest and best methods of combating morbidity, reducing mortality and policing his district. The psychiatrist will look in vain for anything new but the student will find the chapters on Heredity and Hereditary Transmission of Disease illuminating and interesting.

It deserves a prominent place in one's reference library. The author has an excellent grasp of his subject and has done well in the selection of his collaborators.

The book contains 1,389 pages with 157 illustrations and one plate. The index of 68 pages is quite complete with many subjects cross-indexed. Foot notes and references at the end of many chapters are of great assistance in collateral reading.

GRAY.

Infectious Diseases and Aseptic Nursing Technique. A Handbook for Nurses. By DENNETT L. RICHARDSON, M. D., Superintendent of the Providence City Hospital, Providence, R. I., 12 mo. of 182 pages, illustrated. W. B. Saunders Co., 1927. Cloth, $1.50 net.

Dr. Richardson having had fifteen years' experience in the Providence City Hospital is well qualified to discuss the salient facts about the more common infectious diseases found in our climate. He also includes some of the tropical diseases endemic or liable to be imported.

It is the design of the author to present his material so that a course of fifteen lectures can be arranged which will adequately cover the subject of infectious diseases for the nursing profession, and he has accomplished his object in a very practical manner. In the preface he shows how this can be done.

In addition to presenting the essentials of the infectious diseases he has seen the need for a better understanding on the part of the nurse to prevent the transmission of diseases by contact, direct or indirect, so has included Part 2 which takes up aseptic nursing technique.

Part 1 discusses the various modes of transmission, the author dividing the methods of dissemination into two natural groups, those transmitted by

contact, direct or indirect, and those which are spread in special ways, by means of insects, etc. After a clear and intelligent description of immunity he goes on to outline the most important diseases, some, as for instance diphtheria, scarlet fever, typhoid, etc., receiving much more consideration than others. In each he gives the etiology, mortality, incubation period, symptoms, complications, treatment and information on how each may be carried to others and how this can be prevented.

Part 2 describes aseptic nursing technique especially in contagious and infectious diseases, shows how to avoid the spread of the disease, by methods of isolation on wards with the use of several different kinds of warning cards.

He takes up in considerable detail the administrative side of caring for the sick, giving an outline of the duties of the physician, nurse and orderly. The final chapter deals with the latest methods of disinfection.

The book is thoroughly up to date and withal a very practical work which can be recommended not only to the student and graduate nurse but to the intelligent mother who is desirous of keeping her children healthy or protecting other members of the family from contamination with the products of disease.

GRAY.

Hygiene and Sanitation. By JESSE FEIRING WILLIAMS, M. D., Professor of Physical Education, Teachers College, Columbia University. W. B. Saunders Co.

The author has written several books on allied subjects, notably Anatomy and Physiology, Personal Hygiene, Applied and Principles of Physical Education, the first two of which have already run through the first edition.

This book presents the fundamentals of personal hygiene and sanitation, around the central idea of modern health care, to serve the practical needs of teachers and students. The 344 pages are profusely illustrated with photographs in explaining the text and the exercises prescribed for the healthy; many tables and graphs are included with an occasional frequency curve which help to emphasize the subject matter. The author also employs the graphic method to present his statistical facts, supplemented by many forms and charts.

He points out in a very convincing manner that in order to maintain health and prevent disease it is the duty of the individual to live in a salubrious state of mind and body and to join with others through legislation to regulate and control the many environmental and human factors that influence health and combat disease.

In the first chapter he takes up health care in modern times and shows how it developed out of a study of the environment, the discovery of the

role of micro-organisms, vital statistics and the emphasis on personal hygiene. In the second chapter, on the care of one's self, he indicates that the best test of one's grasp of the subject of personal hygiene is not so much an exhibition of his knowledge as the actual practice of the fundamentals. He then discusses six essentials for personal health, physical activity, food, air, rest and sleep, care of the body and straight thinking. The last of these deals with mental hygiene a topic which he treats in a simple and wholesome manner.

Succeeding chapters, still dealing with the individual, consider the health care of the expectant mother, babies and young children, the pre-school child, the aged, infirm and invalid.

In chapter seven he reviews health care in disease, the nature and transmission of disease, the portals of entry, sanitary factors in eliminating the causes, immunity as a factor in preventing communicable diseases and finally the prevention of disease.

In the last four chapters he develops the problem of the care of the health of society in general, beginning in the home, taking us through the factory to the city, State and nation, and lastly expanding on the worldwide character of disease and health care on an international basis.

Each chapter opens with summary titles and is followed by a series of questions and practical exercises, designed to cover the text and should be helpful to the teacher. Collateral readings appear at the end of the book and are arranged in chapter groups, useful as suggestions for supplementary reading.

GRAY.

Understanding Human Nature. By ALFRED ADLER, M. D. Translated by Walter Beran Wolfe, M. D. 286 pages. Price $3.50. Greenberg. New York.

This valuable work supplements the author's earlier book an Organ Inferiority which produced a profound impression on American readers. This new book represents a year's lectures at the People's Institute of Vienna. Being free from technicalities, it can be read and enjoyed by any intelligent parent or teacher.

The author states that the book is an attempt to acquaint the general public with the fundamentals of individual psychology and to demonstrate the practical application of such principles to the conduct of one's every day relationships, not only to the world and to fellowmen, but also to the organization of one's personal life.

The entire work is an elaboration of a few principles which the author

believes to be basic. He defines the psychic life as a complex of aggressive and security-finding activities whose final purpose is to guarantee the continued existence on this earth of the human organism and to enable him to accomplish his development.

The psychic life he believes, is determined by its goal. "No human being can think, feel, will, dream without all these activities being determined, continued, modified and directed toward an ever-present objective." The goal, he holds, is formed very early in life. It may be modified during the period of development but tends to become fixed long before the adult stage is reached. Two factors are uppermost in determining the goal of the individual. The first is the feeling of inferiority, inadequacy and insecurity, which causes the individual to put forth compensating effort. In other words, every individual is striving to attain superiority and security. The other factor in shaping the goal is the social feeling. The feeling of comradeship and goodwill toward his fellows modifies his strivings for dominance to a greater or lesser degree. Education affects the formation of the goal in the child by virtue of its conscious or unconscious desire to compensate him for his insecurity by schooling him in the technique of life, by giving him an educated understanding and by furnishing him with social feeling.

In some children the sense of inferiority is so strong that they become discouraged and make little effort to help themselves. In others the feeling of inferiority is repressed, the individual saying consciously that he cannot be inferior. But repressing the idea and forcing it into the unconscious does not free the individual. The unconscious feeling of inferiority may become a complex which is usually manifested by marked conceit and egotism. Instead of becoming shy and retiring, the individual becomes aggressive and boastful.

Through the interplay of these factors the attitude of the individual becomes fixed and a certain type or pattern of behavior becomes established. The behavior pattern as well as the goal as a rule is fixed early in life. All behavior thereafter becomes an aspect of the unit behavior pattern. "Traits of character are only the external manifestations of the style of life, of the behavior pattern, of any individual. As such they enable us to understand his attitude toward his environment and toward his fellowmen, toward the society in which he lives and toward the challenge of existence in general."

In the second part of the book the development of character is discussed and various types of character traits are explained on the basis of the principles above set forth. Among these are vanity and ambition, jealousy, envy, avarice and hate. In the last section of the book the author discusses the affects and emotions, including anger, sadness, disgust, fear and anxiety; also the conjunctive affects, joy, sympathy and modesty.

In the appendix the author makes some general remarks concerning edu-

cation. He holds that the average home gives a child very defective training frequently developing in him faulty behavior patterns and an unsatisfactory social sense. Life in the community also does not afford a satisfactory means of education. He reaches the conclusion that the school is the only institution capable of affecting a change in the goal of a child. He deplores the old authority of the school and holds that authority must not rest upon force but must be based solely on the social feeling. "A good school is only one that is in harmony with the necessities for healthy psychic development."

Whether one agrees with the author or not, the book is one that can be read with profit. It is really a remarkable help in the understanding of human nature.

POLLOCK.

A Textbook of Bacteriology. By HANS ZINSSER, M. D.; 6th edition. D. Appleton & Co., 1927; 1053 pp. 181. illust.

This book has become almost indispensable to those engaged in the study and practice of bacteriology and immunology throughout its many ramifications. It is therefore gratifying to have it brought up to date rewritten and revised, since it deals with a subject in which progress is so rapid as to prove disconcerting to the physician, the bacteriologist, the public health worker and the student. The chapters on pneumonia and streptococcus diseases, with a separate section on scarlet fever are especially well treated in the light of recent discoveries. This text is comprehensive in scope, the material well arranged and above all clearly presented. In matters still under debate the author is open-minded yet conservative so that the physician may well be guided by his judgment concerning newer therapeutic measures which appear attractive but are not yet soundly established.

The volume is intended as a manual of infectious diseases and therefore might be more appropriately named, particularly since the treatment of non-medical bacteriology is rather scanty. One might wish for more detail in the historical sketch; the development of bacteriology as a science is most fascinating. It seems curious that the classification and nomenclature of bacteria sponsored by the Society of American Bacteriologists, of which the author is the most recent past president, should receive no recognition.

Frequent citations to the literature are among the book's most helpful assets. The index is adequate. Many of the photographs reproduced are unclear. They should either be sharpened or better originals substituted.

But these are minor considerations. They can in no way detract from the value of the work which has been so thoroughly prepared. No one interested in microorganisms can fail to have this text readily accessible.

KOPELOFF.

Surgical Treatment of Goitre. By WILLIAM BARTLETT, M. D.; 365 pages, illustrated. C. V. Mosby Company, St. Louis, Mo.

In this volume of 365 pages the writer, from facts obtained in personal experience gives what he considers the most efficient methods of surgical procedures in goitre conditions. A historical survey of the whole subject is given and the steps which have lead up to our present knowledge and technique. Pathological aspects are well described and conditions which warrant the partial removal or destruction of the gland. The writer is conservative in his views and states that not until all other measures have been tried should the operation be performed. Attention is called to the cases of exophthalmic goitre where congestive heart failure has taken place and also to cases which are not causing any constitutional symptoms. In the former, operation should only be performed during a period of remission in the symptoms; while in the latter there are no marked contraindications to performing the operation at any time.

The author stresses the importance of preparing the patient in order to bring about a favorable mental and physical state by means of diet, rest and various measures of a therapeutic nature; the preparatory period may extend over several months but should not be continued longer than six months. At the end of that time if improvement has taken place, there is a likelihood for the early symptoms to recur. Ligation of the upper pole of the gland is advocated on all exophthalmic cases, one side should be done and the other side after an interval when the disturbance caused by the first ligation has subsided.

Anaesthesia for both ligation and resection of the gland should be preceded by a preliminary sedative like either morphine, veronal, or luminal, and then a combination of novocaine infiltration with nitrous oxide or light ethylene gas should be used.

The technique of the skin incision, division of muscles, exposure and resection of the gland, closure of the wound, drainage and after-care are very clearly outlined and explained. Attention is called to errors from faulty technique which may result fatally or some of them may result in adhesions and other conditions which subsequently are a source of great discomfort to the patient.

The writer is of the opinion that an error is often made in leaving too much thyroid tissue; he leaves only a small portion in front of the trachea and enough stump of the lateral lobes of the gland to prevent slipping of ligatures.

In the after-care the administration of iodine over a long period protects against a recurrence of symptoms but thyroid feeding is an absolute preventive against recurrence. The importance of self-control on the part of the patient and the relation between the physical and mental symptoms are

emphasized. A peculiar mental condition is always present in exophthalmic cases and it is important to alleviate the nervous and restless symptoms before operative means are employed. It is necessary to have a psychological viewpoint in these cases and the attending personnel should all to some degree be what may be termed goitre psychologists.

The book is written in a clear style and has 130 illustrations. The subject is treated not only from the surgical but also from the pathological, medical, nursing and mental aspects of the disease.

PHILIP SMITH.

ADDRESS OF COMMISSIONER PARSONS AT THE GROUND BREAKING CEREMONY OF THE NEUROLOGICAL INSTITUTE

I preface my remarks by saying that the invitation to speak at the ceremonies in connection with breaking ground for the Neurological Institute gives me considerable satisfaction. I judge the invitation comes, not from any special worthiness, but because I represent that department of the State of New York which is sponsor for the neighboring building now being constructed. The aims of the Psychiatric Institute and Hospital and the Neurological Institute tend in similar directions and it is proper that they should be in such close physical contact. Its problem of the nerves and ours of the mind, while not precisely alike, have points in common. Both deal with anatomical structures intimately related. Which of our respective structures is of predominating influence, matters little now. Good reasons might be advanced for the argument that the nerves are but servants of the mind only doing its bidding and for the contrary view that the brain is merely the elaborating mechanism for arranging and using to the best advantage the impressions brought to it by the nerves.

Psychiatry, dealing as it does with the operation of the mind, using those imponderable attributes which are grasped and analyzed with so much difficulty, has long looked up to and respected its more settled brother, a large portion of whose work was on the solid foundation of an organic pathology. Without troubling to familiarize himself with the real complexities of a thorough neurological training, the man practicing psychiatry, has been somewhat envious when he thought of the opportunities for the satisfactory understandings afforded by neurology and of the uncertainties of his own speciality. Neurology seemed easy by comparison although the neurologist has his own problems upon which he is studying, working, cutting and fitting—the only way by which solutions come.

I said Psychiatry had long looked up to Neurology. Did the fate which so ordered affairs have anything to do with the location of these buildings? From the tower of the Psychiatric, footing as it does on a much lower level, one looks into the basement windows of the Neurological. I expect, therefore, that Psychiatry in Colum-

bia will continue to look up to Neurology. But a vigorous youth is being reared in the medical family, one who has already made his presence felt and one who will be entitled to further recognition on the merit of his contributions. Once, I imagine, the barber surgeons were first scorned, then but tolerated by the internist and perhaps they were happy to have the internist's support and encouragement. It is no longer so. The surgeon stands unsupported and in his own surgical sphere leads the man of medicine. Psychiatry cannot be hampered by any element otherwise occupied, less progressive, less experienced in the psychiatric field or less willing to blaze a trail. The advances made in psychiatric medicine during the last twenty-five years argue well for the immediate future.

The trends of Neurology and of Psychiatry have been in directions somewhat divergent. They may so continue and probably will, for both specialties are broad and the potentialities of the human mind are restricted. There may have been some irritation in neurological breasts at the restlessness and the strivings of its youthful cousin. There may have been psychiatric impatience with the securely placed neurologist, but now, each separately housed, yet closely connected by common aspirations, can work to mutual advantage. The Department of Mental Hygiene, being especially interested in the psychological factors which influence human thought and human action, sees particularly and cares most for the advantages which will flow to it from working side by side with this thoroughly seasoned and mellowed group, still forward looking withal, and hopes much. To the Neurological Institute, I present New York State's best wishes and bear a personal message of God Speed from Governor Smith himself.

SUGGESTIONS FOR THE DEVELOPMENT OF A FIRE-FIGHTING MANUAL

Compiled by Earle V. Gray, Superintendent, Gowanda State Hospital

One of the first considerations in the development of a hospital for the insane is the protection of the inmates and the buildings against fire. Much has been written in this regard but no one, in the experience of the writer, has assembled a satisfactory and comprehensive manual on the subject.

In a study of the matter, and in personal contact with firemen over a period of several years, I have accumulated from many sources a few ideas which, to me, seem worthy of account.

The purpose of safety and fire-fighting methods is to instruct all attendants and other employees, especially members of the fire department in the use of its appliances, and how to act in an emergency for the saving of life and property.

In case of discovery of fire it is the duty of every employee, to whom the knowledge of the catastrophe comes, to ask himself at once, "Where is my place?" By proper training the above question can be answered, so that under any circumstances attending a fire, the work of each individual in the hospital will be known and every effort made will be in the right direction and to a definite purpose.

It is necessary that all should know, first, what to do, and second, how to do it. Secure in this knowledge, the individual will remain calm and cool in every instance. One excited person working blindly and without a definite object, can neutralize the work of many, and a good rule is, "never do a thing aside from your instructions without authority", remembering, of course, that each one has a definite duty to perform, established by rule and practice. Obedience to orders is one of the most essential things one must learn, provided the orders come from the right source. Careful training in these methods prepares for the occasion when one may have to act upon his own initiative and without orders. This places a person on his own responsibility and his judgment must be good to avoid undoing what others are striving hard to accomplish.

No matter how small the hospital may be or how simple the set up of fire equipment, an alarm of some kind should be decided upon to notify the personnel of the emergency. In the larger hospitals it is often found necessary to have a code of signals in order to inform the fire department and the safety corps of the exact location of the fire. These signals should be familiar to all so that no time may be lost in responding.

Employees should never hesitate about giving an alarm, however small the fire may be, unless it is already under control or extinguished. The tend-

ency is to believe that it can be put out without the aid of the department, but this is often unfounded and results in loss of life and property. If the fire is extinguished before the department arrive, there is no harm done, and in any event the companies have had some practice.

Fire signal systems have been developed to a high degree, most of them working through electrical wires connecting signal boxes with a central office where the signalling equipment is located. Local and general gongs situated at strategic points about the buildings and grounds sound the alarm at the same time. Automatic fire sprinkler systems are also being installed in basements and attics as well as in the wards of many hospitals. These, generally, are made to sound a local alarm as soon as a sprinkler head lets go. The continuous ringing of the fire sprinkler system gong distinguishes it from the fire signal gong which rings intermittently.

To remove the cause is fire prevention and this is as much the duty of the personnel as to aid in subduing a fire. When definite rules and regulations concerning fire prevention and fire-fighting are formulated and the personnel is well trained to observe them, fires will be infrequent, for every person will be on the lookout for any cause of fires and will report immediately anything that appears suspicious.

Matches being one of the chief causes of fire, all hospitals should require that none but safety matches be used and these should be furnished by the institution. The match box should have the owner's name and date of issue on it and each individual, being held responsible for his box, should return it empty for replacement. A violation of this rule ought to make the employee liable to charges of misconduct. Patients sometimes get matches from visitors and this danger must be constantly guarded against. This brings us to the consideration of the evil of smoking. Definite rules should be laid down about the proper place for smoking. Now that the gentler sex has taken up the pastime the danger from cigarette butts has greatly increased, and it is only through wise education that employees will faithfully abide by such restrictions. Oiled rags are another source of danger and have caused so many fires that too much care cannot be exercised in disposing of any that have been employed for finishing and cleaning purposes. Spontaneous combustion from dust, fine coal and other substances results in fires, therefore, the rule should be to remove, regularly, all dirt, dust, rags, papers, or other debris and to keep closets and other infrequently used rooms free from such accumulations.

All hospitals of modern construction have some sort of inside fire extinguishing apparatus consisting of a series of standpipes throughout the various floors, connected to the main source of water, with valve openings on each floor to which one length or more of hose is attached and with a nozzle wound upon a reel or folded in a cabinet concealed in the walls. In

addition to the above, chemical fire extinguishers are placed in convenient positions near exits. Bath tubs filled with water, at night, and fire pails left on the wards should be thought of as first aids in putting out incipient fires.

Outside fire apparatus consists in fire hydrants planted on a high or low pressure water system. Fire ladders should be kept on the grounds near the buildings as an additional aid to the fire department. In institutions located in rural districts and dependent on their own resources triple combination pumper, chemical and hose apparatus should be assembled on one chassis.

The entire hospital personnel may be divided, for the purpose of fighting fires, into four divisions, as follows:

1. A safety corps, whose duty it should be to evacuate the buildings as speedily as possible, for the protection of the patients and employees.
2. A first aid corps, whose duty it should be to take care of all emergency accidents and injuries.
3. An auxiliary corps, who, in the event a fire persists, should arrange to furnish food and drink to those at work.
4. A fire-fighting department, whose duty it should be to protect the buildings from fire.

The life saving corps should consist of the employees, especially the attendants in charge of patients, organized into a body to assist in exit drills and, in case of fire, conduct all inmates to the outside. The value of this corps will depend upon the promptness with which they act and the control they may have of the patients. The usefulness of an exit drill and the extent to which it may be developed depends upon the discipline maintained. This can be accomplished only by regular rehearsals. The purpose of the drill is to ensure efficient and safe use of the exit facilities and prevent panic, which has been responsible for the greater part of the loss of life in the major fire disasters of history. Speed in emptying buildings, while desirable, is not in itself an object, and should be made secondary to the maintenance of proper order and discipline.

Since fire is always unexpected, drills should be held in unexpected ways and at different times. If the drill is always held at a regular time and without variation, it loses much of its value, for in the event of a fire it might not be possible to follow the usual routine of the fire drill to which the patients have been accustomed, and confusion and panic might result.

Drills should be carefully planned to simulate actual fire conditions, different exits being used, on the assumption that some given stairway is unavailable by reason of fire or smoke.

The personnel of the fire exit drill corps should be divided into the following: The chief supervisor should have general charge of all matters pertaining to the drills and should designate those persons who are to fill the

positions of floor chiefs, stairway guards, monitors and searchers. He should fix the time for the drill, enforce disciplinary measures, see that overcrowding is prevented and that all persons are removed in the shortest time consistent with safety. He should notify all members of the corps regarding the general plan of management and the details pertaining to their specific duties and see that the employees are familiar with them.

The floor chief should have immediate charge of patients and employees on the ward in all matters pertaining to fire exit drills, see that employees hasten to their places of duty and promptly collect the patients for drill, clearing all aisles toward the fire escapes, stairways or doorways, depending on which one is to be used for the main exit drill.

Stairway guards should see that the marching is orderly, without crowding, prevent stumbling, assemble patients in military order by twos and train them to hold hands or link arms.

Monitors should guard the patients on their way down the exits and otherwise assist the stairway guards. With the latter they should, on reaching the ground, continue the march away from the buildings and the operations of the firemen and also prevent the patients from eloping.

Searchers should visit the toilet rooms, side rooms and other parts of the ward, inspect under beds, etc., to look out for any stragglers and those who are too infirm to get out unattended. They should close all windows and doors, being especially careful to see that all fire doors are tightly closed On fulfilling these duties they should assist the monitors.

The first aid corps consisting of a physician and nurses in addition to taking care of the injured, should train employees how to avoid the bad effects of smoke, teach them the Schaefer's method of resuscitation, and the use of the pulmotor.

The auxiliary corps will rarely function but should be organized to act in case of emergency so that its members may be able, as occasion requires, to obtain food and drink for the other corps.

The organization and training of the fire-fighting brigade is one of the most important problems in the field of fire protection. The motive underlying the association is fundamentally one of mutual protection, first in safeguarding the patients and employees, second in preserving the hospital. Its efficiency will depend largely on the skill with which the situation is met and the handling of the appliances. However perfected, fire extinguishers, and hose companies will prove of small value if we neglect the means by which their possibilities are to be realized.

The members of this corps may consist of the following officers and men:

Chief, preferably one trained in modern methods of fire-fighting, first and second chiefs, to act in his absence and assist him in his duties.

Hose companies, to contain the following: Hydrant men, one to remain

at hydrant, others to assist in unreeling hose, making couplings and in aiding and taking out hose; hose-line men and pipe-men should be capable of carrying pipe and hose line up roof ladders and with endurance to withstand effects of smoke; ladder and axe men place ladders, open roofs, partitions, etc., use extinguishers and assist in tearing off window guards; gas mask men and sprinkler men will specialize in the use of gas masks and the intricacies of the sprinkler system. Hook and ladder companies should perform the same duties, in substance, as the hose companies, except in so far as their equipment is different.

The fire department should be organized under a formal constitution and by-laws, meet regularly to discuss methods of fire-fighting, and fire prevention, drill at specified times, using all equipment, and study to perfect themselves in all things pertaining to this department.

They should be trained to know the construction of the buildings, to remove all causes of fire, see that all fire rules are obeyed by the entire hospital personnel and to inspect for fire hazards.

Inspection should be made daily by watchmen who will report in day books all fire hazards, any appliances out of order and any other details. Each month the fire chief should select a committee to make a complete inspection of the entire plant, reporting at the regular meeting of the department. Every quarter a committee composed of several of the officers should make an inspection with suggestions as to additional equipment or change in the policy of the department, reporting to the superintendent.

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Outlines of Fire, Sidney G. Gamble, F. S. I., etc.

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Fire Protection for Hospitals, Asylums and Similar Institutions, H. W. Forster.

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How to Organize Fire Drills, Autocall Company.

Gowanda Fire Department Rules and Regulations.

Important Suggestions for Fire Prevention, T. J. Ahearn, State Fire Marshal.

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Fire Prevention, Peter J. McKeon.

GOVERNOR SMITH'S MESSAGE

Governor Smith presented his eighth annual message to the State Legislature January 4, 1928. The message is a comprehensive document covering the progress made by the various departments of the State government during the past eight years. We reprint below the part relative to the Department of Mental Hygiene.

Scope of the Mental Hygiene Department

The Department of Mental Hygiene, which was created by the Reorganization Law of 1926, took over on January 1, 1927, the duties of the former State Hospital Commission and State Commission for Mental Defectives. The new Department in addition to its administrative offices in Albany and New York City comprises 14 civil State hospitals for the insane with 47,000 patients, 4 State schools for mental defectives with 8,000 patients, and Craig Colony for Epileptics with 1,550 patients. The Department also has powers of inspection over certain other State institutions and 39 licensed private institutions.

In its out-patient and preventive work the Department of Mental Hygiene conducts mental clinics at intervals in nearly 100 cities and villages of the State. The visits to such clinics during the last year numbered more than 23,000.

As part of its scientific work the Department conducts an institute for psychiatric research and a bureau for statistical research. The results of its investigations and studies are published in The Psychiatric Quarterly.

Progress in the Care of the Insane

Marked progress in the care and treatment of the insane has been made in this State during the past decade. The most noticeable features of such progress, naturally, are the new State hospitals and the additions that have been made to hospitals in existence at the beginning of the period. The Marcy State Hospital, the first unit of which was opened for patients in December, 1922, was the first new State hospital erected since 1898. Owing to lack of continuity of appropriations, this institution, which was conceived in 1911 and definitely planned in 1917, is not yet completed. Necessary appropriations from the proceeds of the hospital bond issue have been made for the work remaining to be done. Following Marcy came Creedmoor State Hospital with two large groups of buildings the first of which was occupied by patients in March, 1926, and the second is now practically completed. Then came the Harlem Valley State Hospital, which was estab-

lished in 1924, on the site originally purchased for Wingdale State Prison. Buildings which were on the site at the time of its transfer to the State Hospital Commission have been remodeled and occupied, and contracts have been let for several new buildings. The last State hospital to be established is located near Orangeburg, Rockland County, and is known as the Rockland State Hospital. The first contracts for the erection of this institution were let in April, 1927. These four new hospitals when complete will accommodate approximately 14,000 patients. Notwithstanding these large additions to our State hospital system, the increase of patients has been so great that it became necessary to make an appropriation of $75,000 last year for the purchase of a site for another State hospital.

During this period of active new hospital building, much has also been done to enlarge and improve existing State hospitals and to provide them with suitable buildings for the proper classification and treatment of the several types of mental disorders. Extensive additions have been made to the Brooklyn, Buffalo, Central Islip, Kings Park and Middletown State Hospitals, and provision has been made for additional accommodations for patients and employees at the Binghamton, Hudson River, Manhattan, Rochester, and St. Lawrence State Hospitals. The aim in planning improvements at the several hospitals has been to provide safe, suitable and adequate accommodations for patients, officers and employees and ample facilities for treatment, thus making each hospital a complete functioning unit.

New Veterans' Memorial Hospital

More noteworthy perhaps than other new construction work has been the building by the State of the Veterans' Memorial Hospital at Kings Park which was dedicated last September. This hospital, which originated in the deep sense of gratitude felt by the people of the State to the men who fought our battles in the World War, is beyond question the most complete institution yet devised for the treatment of mental patients. It constitutes a worthy and fitting tribute by the State to the veterans of the late war.

New Psychiatric Institute and Hospital

While working to give the unfortunate patients committed to the State hospitals the best possible care and treatment, the State has not been unmindful of the scientific aspects of the work and of the need for the special training of physicians in the care and treatment of mental disorders. To provide a research and teaching center adequate for the needs of its hospital system, the State is building in New York City from the proceeds of the hospital bond issue a magnificent Psychiatric Institute and Hospital to form a part of a greater medical center, other units of which are being built by Columbia University, the Presbyterian Hospital and the Neurological Institute. The

construction of the building is now well advanced and it will be put into full operation during the coming year.

Realizing that the Psychiatric Institute and Hospital in New York City in its educational and treatment work will serve principally the Metropolitan District, provision was made last year for another Psychiatric Institute and Hospital to be built in Syracuse and to function in connection with the Medical School of Syracuse University.

Fire Prevention and Protective Measures

The disastrous fire which occurred in the Manhattan State Hospital in February, 1923, directed public attention to the fact that a large part of the patients in our State hospitals were being housed in non-fireproof buildings, many of which were of the quick burning type. To remedy this situation it was decided to make all new buildings for patients fireproof and to safeguard the others as far as possible by the installation of modern sprinkler devices and fire-alarm systems, and by the erection of fire-escapes, fire-doors, fire-walls and other protective measures, all of which were recommended by the National Board of Fire Underwriters after a thorough survey of all buildings used for hospital purposes. During the last four years $3,200,000 has been appropriated for this purpose and the worst fire hazards which menaced our patients prior to 1923 have been eliminated.

Progress in Care and Treatment of Mental Defectives and Epileptics

Prior to 1919 there was practically no supervision of our institutions for mental defectives. For the purchase of supplies they looked to the State Fiscal Supervisor and for policy in management they looked to local Boards of Managers. The State began a more intensive study of the problem of mental deficiency in 1919 and established the State Commission for Mental Defectives, which by operation of the reorganization, has been transferred to the Department of Mental Hygiene.

Our four State schools for mental defectives have become inadequate. Provision has been made for a new institution at Wassaic in Dutchess County which will have a capacity of 3,000 and will receive patients from the Metropolitan District. An extensive building program has been in progress at Letchworth Village for the past three years. Several new buildings were opened this year and several others are still under construction. At Rome State School a new dormitory to accommodate 200 patients has recently been opened. Plans are under way for the expansion of the Newark State School and consideration is being given to the Syracuse State School.

Craig Colony for Epileptics is also being enlarged. An addition to its hospital building was recently completed, and contracts were let this year for an admission building, a staff house and a home for teachers and student nurses.

The Colony System

A recent development of great significance in the care of mental defectives is the establishment of colonies wherein live a group of mental defectives under the care and guidance of a supervisor and his wife, or of a matron. The patients work a farm hired or owned by the State school, or work for wages in various lines of employment. The colonies thus become nearly self-supporting. The Rome State School conducts 36 of these colonies, Syracuse State School, 9, and Newark State School, 3. Altogether, 1,150 patients are cared for in this way. The State plans to extend the colony system to certain quiet types of mental patients, thus relieving some of the overcrowding and contributing to the freedom and happiness of the patients so colonized.

Improved Treatment of Patients

Active measures have been taken during the past ten years to improve the care and treatment of patients in the State hospitals. In 1924, a thorough survey of the medical work of the several hospitals was made by a special committee appointed for such purpose. At the conclusion of its work the committee reported its findings and made several specific recommendations for the improvement and standardization of medical treatment throughout the system, which were later approved by the Commission and put into effect by the hospitals. With interest in medical work thus stimulated and with more liberal appropriations for medical personnel many noteworthy gains have been made. Modern equipment for treatment procedures has been installed; the ratio of physicians to patients has been increased, clinical directors have been provided; diagnostic clinics have been established and many minor improvements have been effected. Remarkable advances have been made in the treatment of a mental disorder hitherto uniformly fatal.

Another gain of recent years has been the development of occupational therapy in our State hospitals. The value of this form of treatment for physically-able patients had been recognized for many years, but it was not until 1922 that a determined effort was made to extend its use throughout the whole hospital system. In that year a director of occupational therapy was appointed and soon thereafter a chief therapist and assistants were appointed in every State hospital. More recently physical training under competent instructors has become an essential part of the treatment. An indication of the advance in this field is seen by the increase in patients receiving systematic occupation as a measure of treatment from 1,800 in 1922 to 14,000 in 1927.

Progress in Out-Patient and Preventive Work

The out-patient work conducted by the Department of Mental Hygiene is each year assuming wider scope and larger proportions. The annual num-

ber of visits to the clinics conducted by the Department has increased during the past decade from 6,000 to 23,000. Two types of out-patient clinics are being conducted; those under the direction of the State hospitals are principally for patients on parole and cases of incipient nervous or mental disease. Those conducted by the division of mental defect and epilepsy are called child guidance clinics. Their purpose is to study defective and psychopathic children and to assist parents and teachers in their training and management. These clinics are valuable agencies in preventing mental disease and in securing proper care and guidance for mental defectives.

Another preventive measure recently developed in the field of mental hygiene, through cooperation with the newspapers of the State and with social organizations of many kinds with the Department is the dissemination of information concerning the nature and causes of mental disease and mental defect and suggesting methods, for the preservation of mental health. The physicians of the State hospitals and State schools are assisting in this work and doing further educational work by means of lectures, special clinics for nurses and college classes, and magazine writing.

Improvement of Conditions for Officers and Employees

In planning improvements to its hospital system employees as well as patients have been taken into consideration. During the past ten years general standards of living have risen and salaries and wages have notably advanced to meet these conditions. The Department has been building new homes for nurses and other employees and staff houses and cottages for physicians.

In nearly all of the hospitals in the State beds that should be used for patients have been of necessity given over to employees. It must be borne in mind that additional homes for nurses and employees generally mean more beds for patients. The crying need of our State hospital system today is more beds for patients. Commitments to the State hospitals are coming at such a rate that the fifty million dollar bond issue now all allocated will not altogether relieve the overcrowded condition it was supposed to remedy. This is due to the large number of yearly admissions. In my financial message accompanying the appropriation bill I will deal with this subject in full.

RUNNING AMUCK

Dr. Van Loon, professor of psychiatry in the Medical School of Batavia, Island of Java, recently presented to the International Institute of Anthropology, a study of the psychoses peculiar to the island, especially that strange form of mental disturbance known as "running amuck" (Malay, amoq).

He describes running amuck as a sudden, wholly unforeseen and murderous attack made by the Malay upon the first person with whom he comes into contact—even though it be a member of his own family. During this attack he either kills or seriously injures his victim, and in the majority of cases follows the assault with suicide, making use of the first weapon coming to his hand, either pistol or the deadly dagger called the kris, with which he is most familiar. In these cases, if the attack does not reach its peak through intervention on the part of others and he is interrogated, it is frequently found that he has no recollection whatever of the assault. If perchance, he does recall any element of the attack he declares that a vision came before him; or everything turned black before his eyes; or an enemy stood face to face with him; an armed man, or in other cases, a tiger was about to attack him; and then he rushed upon the aggressor.

While Professor Van Loon quotes with respect the opinion of Kræpelin who regarded such attacks as simply epileptic episodes, the writer states that in his experience there was little to suggest even an epileptiform seizure; the enraged Malay who throws terror into the hearts of the inhabitants of the village, which may be the theatre of the bloody tragedy, while showing marked furor presents rather a condition of mental stress or anguish due to infection, this being either malaria, typhoid, la grippe or other toxic elements.

Professor Van Loon states that outbreaks of delirious infectious psychoses in other countries, especially in Europe rarely present a resemblance to these furious outbreaks. But the Malay is different from all other races. He is a being of intense emotionalism and subject to suggestibility to an extent that has no equal in any other race, certainly not among Europeans. He is a being first of all greatly affected by his environment and very subject to the malarial terrain in which he lives.. He offers no resistance to sudden emo-

tional impulses. Fright or anguish does not cause him to give way but rather braces him. However he quickly loses his head and is very strongly affected by panic. Victims of the infections peculiar to the island who unite with them such emotionalism and suggestibility are led into an acute confusion which develops into this drama of running amuck.

There has recently been a very considerable uprising among the natives against the Dutch government of Java. In referring to this matter, Professor Van Loon again mentions the suggestibility of the Malay. He says this leads him to accept much easier than we do, and without criticism, the ideas and the emotions of other races and while this fact renders him a tractable and a loyal follower of those who know how to exercise honest and incorruptible authority it also may make him an easy victim of the wiles of a clever conspirator. This fact explains, writes Dr. Van Loon, the success of the exhibition by the Dutch government of its power in putting down the revolt. As soon as this display of force became apparent to the Malay he quickly changed his murderous tendencies. Dr. Van Loon adds that frequently in a hospital for the insane the calm firmness of a physician or even of a nurse is sufficient when exercised carefully to obviate dangerous outbreaks of Malay patients.

One should not, Dr. Van Loon states, endeavor to compare the psychoses of Oriental countries with those noted by psychiatrists of the Occident, or the racial anomalies of one race with those of another; rather should the comparison be made between the anomalies of each with their normal life. This course should be followed also in the less dramatic manifestations of the psychosis known as the "latah" or "jumping disease" peculiar to Java.

NEW JERSEY'S PROBLEM

The State of New Jersey is facing the same problems as those which have confronted the State of New York with respect to the care and treatment of the insane. Plans for the construction of a new state hospital for the insane are being considered by the New Jersey Board of Control of the State Department of Institutions and Agencies. The proposed new institution is expected to overcome the crowded condition of two state and nine county mental

institutions and to cope with the rapidly increasing number of insane. It was recommended in a preliminary report of a committee named to study the problem which found that there are more than 10,000 mental patients in the state and that the number is growing at an average of 250 a year.

According to news reports, New Jersey officials attribute the increase in insanity to the growing tendency to care in state hospitals for mild types of mental disorders; a more cooperative and understanding public; a diminishing tendency to commit to or hold in jail insane criminals; the increasing disinclination to admit to almshouses mentally diseased paupers; the greater number of social service organizations having an increasing number of mental clinics at their disposal, thus aiding in the detection of mental disease among clients.

UTICA STATE HOSPITAL TO GIVE COURSE IN MENTAL NURSING TO STUDENTS OF UTICA SCHOOLS

The Utica State Hospital and School of Nursing have been approved by the State Department of Education to give three months affiliation to students from general hospitals.

Six students will be taken in three groups a year. During the months of June, July and August no students will be taken. The affiliating students will live at Dixhurst, the nurses' home.

The subjects to be taken up in this course are as follows: Mental defects including intelligence tests, organic psychoses, toxic conditions, constitutional psychoses, psychoneuroses, psychotherapy, mental hygiene and mental nursing. Along with this academic work each student will serve a certain number of weeks on the following services: Reception service, occupational therapy, physical therapy, infirmary and convalescent wards.

It is intended to give 15 hours' lectures by the staff physicians, 15 hours' mental nursing and 15 hours' clinics so that it will be possible for these students to obtain one unit college credit for each 15 hours if they so desire. The contracts for this affiliation will be on the same plan as of other affiliating schools.

SURVEY OF NEW YORK CITY MENTAL HYGIENE ACTIVITIES

A survey of all mental hygiene activities in New York City has been begun under the auspices of the National Committee for Mental Hygiene. The survey will include activities in six fields, namely,

clinics, courts, schools, welfare agencies, institutions, and education and publicity. The results of the survey will be used by the New York City Committee on Mental Hygiene as the basis for a comprehensive program of work. Miss Elizabeth Greene, formerly psychologist for the Girls' Service League, is making the survey under the direction of Dr. V. C. Branham, medical director of the New York State Committee and Dr. George K. Pratt of the National Committee for Mental Hygiene.

BROOME COUNTY MENTAL HYGIENE COMMITTEE

A mental hygiene committee was organized in Broome County on November 18 and will be affiliated with the State Mental Hygiene Committee. Representative people from all parts of the county have joined the committee and work for the year has been planned. Dr. Garvin of the Binghamton State Hospital took an active part in organizing the committee and Dr. H. A. Steckel will act as chairman of the Committee on Publicity and Education. The following officers were elected: Mrs. Archibald Whitelaw, president; Mrs. Floyd D. McLean, vice president; Miss Effie Knowlton, recording secretary and treasurer; Mrs. A. L. LaRoche, executive secretary.

ANNUAL MEETING OF THE AMERICAN OCCUPATIONAL THERAPY ASSOCIATION

The eleventh annual meeting of the American Occupational Therapy Association was held in Minneapolis, Minnesota, October 10, 11 and 12, 1927.

The New York State hospital service was well represented at the meeting by the following chief occupational therapists: Miss Harriet Robeson, Kings Park State Hospital; Mrs. Anna Tompkins, Manhattan State Hospital; Miss Lois Schenck, Willard State Hospital; Miss Jessie Lozier, Rochester State Hospital.

At the opening session on Monday, October 10, Dr. Joseph Doane, President of the American Hospital Association, extended greetings and good wishes for the future advancement of the profession. Doctor Doane was elected to the Board of Management of the association at the business session.

In his presidential address, Mr. Thomas B. Kidner referred to a decision of the members to establish an annual registration of qualified occupational therapists; this step having been strongly advocated by the late Dr. Thomas W. Salmon.

The report of the secretary-treasurer, Mrs. Eleanor Clarke Slagle, showed an increase in the activities of the association during the year. Membership has steadily increased; there are now 850 members in good standing, 7 per cent of the membership being composed of physicians.

Mrs. Frederick W. Rockwell, chairman of the Finance Committee, announced many generous contributions from members and friends to the work of the association.

The large display of patient's work for which generous space was provided by the American Hospital Association, showed the great advance made in recent years. Work done in mental hospitals formed a large part of the exhibit. A noteworthy feature was a collection of projects from the government hospital, Asilo Chapui, San Jose, Costa Rica.

Many of the papers presented were by medical men who were convinced of the increased part occupational treatment is playing in the reconstruction of all types of sick and disabled persons.

By unanimous approval an amendment to the constitution was passed, increasing the Board of Management from nine to fifteen members. The adoption of this amendment involved the election of a new Board of Management as well as officers for the coming year.

The following persons from the New York State hospitals were elected to the Board of Management: Miss Harriet A. Robeson of Kings Park State Hospital; Dr. C. Floyd Haviland of Manhattan State Hospital; Dr. H. M. Pollock, of the State Department of Mental Hygiene.

The following officers were re-elected: President, Thomas B. Kidner; vice-president, Dr. M. A. Bliss; secretary-treasurer, Mrs. Eleanor Clarke Slagle.

NOTES

—Dr. Payson Smith, Commissioner of Education of Massachusetts, in an address at the annual meeting of the Massachusetts Society for Mental Hygiene on November 16, 1927, discussed the obligations of the school with respect to the mental health of the child. He set forth the following seven requirements which should be met by the public schools:

1. Our school children should be provided with school buildings and environments that are physically correct.

2. Our school children should be provided with a healthy school atmosphere.

3. Our school children should be provided with tasks equal to their capacities—physical as well as mental.

4. Our school children should be thought of not as young adults, but as children in fact.

5. Definite provision for the exceptional child should be made, including not only special classes for the mentally defective, but for the mentally superior child.

6. Our school children should be spared as much as possible the experiences which may cause the development of special fears and dreads.

7. Our school children should be assisted in meeting the definite and specific crises of normal life.

—The new Neurological Institute of New York City, for which ground was broken on October 19, 1927, will be a building of 14 stories and will have 150 ward beds, a children's ward of 10 beds, 50 rooms for private patients and 67 rooms for nurses. A special feature of the new Institute will be a "Misfit Clinic" to deal with the vocational and personal problems of children and adults. The clinic will be dedicated as a memorial to the late Dr. Pearce Bailey, who was one of the founders of the Institute and was head of the division of neurology and psychiatry in the Surgeon General's office in the late war.

—The annual meeting of the National Committee for Mental Hygiene, which was held in Hotel Pennsylvania, New York City, November 10, 1927, was attended by over 300 members and in point of interest and enthusiasm was perhaps the best meeting ever held by the committee. At the business session Dr. Charles B. Emerson of Indiana, was re-elected president and memorial addresses were given in tribute to Dr. Thomas W. Salmon, Dr.

Walter B. James and Dr. Isham G. Harris. At the general session short addresses were made as follows:

"The National Committee for Mental Hygiene", by Dr. Frankwood E. Williams.

"Child Guidance", by Dr. Lawson G. Lowery.

"College Mental Hygiene", by Dr. Arthur H. Ruggles.

"Mental Deficiency", by Dr. George L. Wallace.

"Criminology", by Dr. William A. White.

"Mental Disease as a Social Problem", by Dr. C. Floyd Haviland.

"Plans for the First International Congress of Mental Hygiene", by Clifford W. Beers.

"The Minister and Mental Hygiene", by Dr. Harry Emerson Fosdick.

—Through the death of Dr. Marcel Briand, French Psychiatry lost, in 1927, one of its most distinguished representatives. A sympathetic and interesting rêsumé of the many outstanding features of his psychiatric career is contributed to the Annales Medico-Psychologiques, for November, by a former associate, Dr. Halberstadt.

Dr. Briand was born at Angoulême in February, 1853. After finishing his classical studies he took his medical course in Paris and was early drawn to psychiatry, becoming a student of the distinguished Dr. Magnan and, subsequently, in 1878, serving as interne under his direction.

Dr. Magnan at the celebration of his jubilee in 1928 recalled Dr. Briand's indefatigable zeal, his devotion to the welfare of the patients under his care and his ardor in supporting and extending the system of non-restraint for the insane.

Subsequently, Dr. Briand studied in other medical centers outside of France and upon his return to Paris was appointed assistant physician at Saint-Anne and in 1884 became superintendent of the asylum at Villejuif.

For twenty-eight years Dr. Briand remained at Villejuif. Subsequently upon Dr. Magnan's recommendation he was appointed as the latter's successor, remaining in that position until 1921 when he was retired by reason of reaching the age limit.

Dr. Briand was a frequent contributor to medico-psychological and medico-legal journals, his bibliography comprising a total of 91 addresses or articles on subjects in his specialty, including many on encephalitis and the intoxications. He had a distinguished medical record in the World War and his papers on war psychoses and neuroses attracted wide attention. He organized a psychiatric service at Val-de-Grace which became a model for similar activities elsewhere.

—Heated discussions in the daily press of Paris have followed the submission of the report of two eminent pathologists showing autopsy findings on the brain of the distinguished French writer and academician Anatole France. A portion of the press criticizes not only these two savants but also everyone responsible for suggesting that such examination be made. Certain writers declare that it was an indiscretion and a pointless one—approaching almost to a profanation. Others ask what the great writer's personal views would have been had the subject of an autopsy been broached to him during his lifetime.

In Le Monde Médical for December, Dr. Henri Bouquet expresses great difficulty in understanding these objections and points out that only by such examinations can any real progress be made in laboratory work on this most complex organ.

The report submitted by Drs. Guillaume Louis and Dubreuil-Chambardel substantiated the view generally held by medical men that the weight of the brain had little connection with the degree of intelligence of the individual. However, they found the convolutions to be extraordinarily complex as were also the frontal and occipital lobes.

—The Division on Community Clinics of the National Committee for Mental Hygiene is engaged in revising and bringing up to date the Directory of Psychiatric Clinics for Children in the United States issued by the Joint Committee on Methods of Preventing Delinquency in 1925. This directory has been widely used but is now out of print.

The cooperation of all psychiatric agencies handling children is solicited in order that the new Directory may be as complete and accurate as possible. To this end the Division on Community Clinics would appreciate having the names of any clinics not previously listed. This would include all clinics organized subsequent to January 1, 1925.

REVERSE PERISTALSIS AND INDIGESTION

"THERE is accumulating evidence," asserts a distinguished authority on nutrition, in his book on dietetics, " . . . that a very slow, almost imperceptible reverse peristalsis is an exceedingly common phenomenon and is the real cause of a majority of the symptoms associated with the stomach. . . . Chronic constipation, or intestinal stasis, is thus being shown to be the cause of most of the disorders of the alimentary canal as well as the origin, through intestinal toxemia, of a vast number of general disorders."

Thanks to the continuous educational work of thousands of physicians and dietitians, there are today many evidences of a growing realization of this cause and effect relation between chronic constipation and disorders of the stomach. Not the least of these evidences is the place which fresh yeast has come to occupy in the nation's diet.

Although known to the medical profession for years—it was in 1852 that Mosse, writing in the London Lancer, first called yeast to the attention of the medical world—it is only within the past 15 or 20 years that fresh yeast has come into its own as a corrective food in the treatment of constipation and allied disorders. During this period the researches of many men in the very front rank of medical science, both in this country and in Europe, have fully corroborated the findings of Mosse and other earlier workers.

The mass of authoritative data, both laboratory and clinical, which these researches have yielded, has made increasingly plain the many advantages of fresh yeast in treating disorders having their source in an unhealthy condition of the colon. One of the greatest of these advantages is the effect of yeast in setting up conditions unfavorable to the development of hostile bacteria in the intestine.

In constipation, yeast tends to increase the bulk and moisture of the fecal masses. The stools become more easy and regular. The toxemia resulting from prolonged cases of intestinal putrefaction ceases to be a symptom.

Directly the whole digestive tract is benefited. Appetite increases, and with it the patient's sense of well-being.

In run-down conditions yeast has a mild systemic effect. In skin affections, such as furunculosis and acne, the efficacy of fresh yeast is too well known to call for comment.

* * *

Physicians usually suggest three cakes daily, one before each meal. Yeast may be eaten plain or with a sprinkle of salt, spread on crackers, or suspended in milk or water. For constipation it is most effective when taken in hot (not scalding) water, one cake before each meal and at bedtime.

A copy of the latest brochure on yeast therapy, containing a bibliography of articles and references on the subject, will gladly be mailed on your request. The Fleischmann Company, Dept. 100, 701 Washington Street, New York City.